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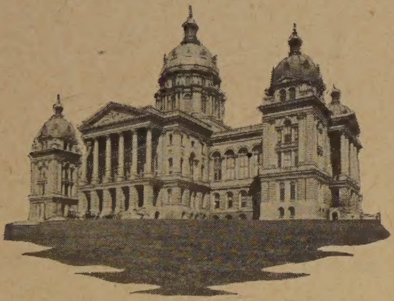

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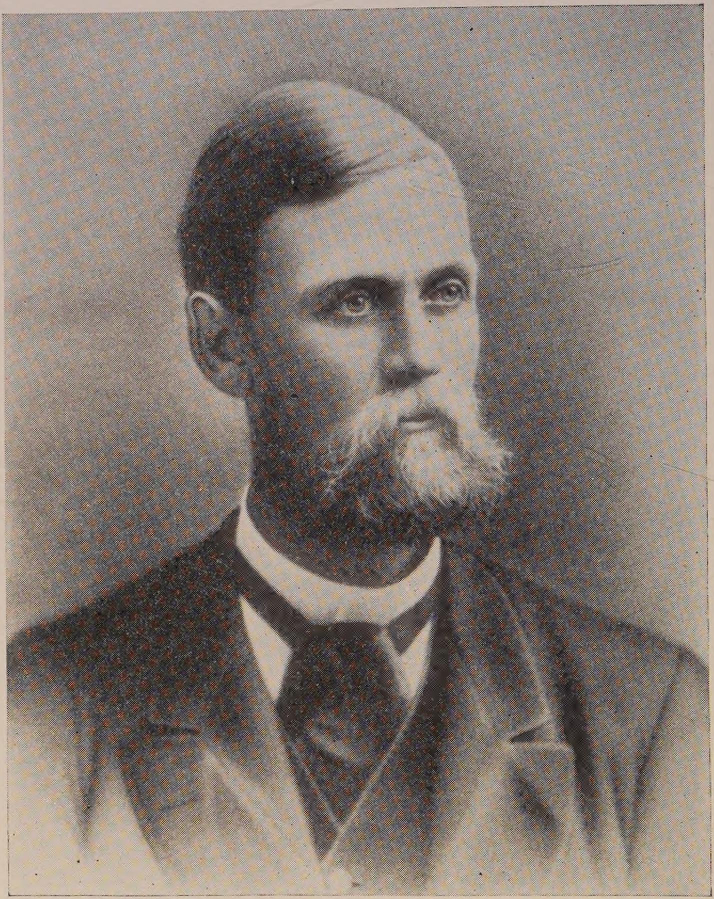

WILLIAM STEBBINS BARNARD, PH. D.

Professor of Biology, Drake University, 1886-87.
Professor Natural History, Oskaloosa College, 1876-78; Assistant Professor of Entomology, Cornell University, 1879-81; Assistant Entomologist, Bureau of Entomology, Washington, D. C., 1881-86.

ANNALS OF IOWA

VOL. XX, NO. 5 DES MOINES, IOWA, JULY, 1936 THIRD SERIES

WILLIAM STEBBINS BARNARD

PROFESSOR OF BIOLOGY, DRAKE UNIVERSITY, 1886-1887

BY F. I. HERRIOTT
Professor in Drake University

Science is nothing but perception.—Plato.

The scholar must be a solitary, modest and charitable soul. He must embrace solitude . . . . that he may become acquainted with his thoughts. —Emerson.

In the list of his first faculty which Chancellor George T. Carpenter submitted to the Board of Trustees of Drake University on June 28, 1881, was the name of Dr. William S. Barnard for the chair of chemistry and biology.[1] He had held the chair of natural history in Oskaloosa College under Dr. Carpenter's presidency for the years 1876-78. To Chancellor Carpenter's great disappointment Dr. Barnard's engagement in some scientific work for the national government at Washington held him there until the fall of 1886 when he came to Des Moines and became a member of Drake's instructional staff. He was in his second year of service when death suddenly cut off a career of brilliant promise and rapidly spreading fame as a rising scientist.

Short as was his career in Drake, Dr. Barnard left a host of vivid memories in the minds of his colleagues and students that only an efficient teacher, an earnest scientist and a gentleman and a scholar could leave. He was a fine exemplar of what a scientist in the best and broadest sense of the term should be. He was alert and clear-headed; constantly searching for the basic controlling facts in his special fields of science; open-minded, free from fanaticism and traditional prejudice that prevented his candidly canvassing the pros and cons of matters in dispute; cautious in assertion and considerate in discussion of moot points; and always willing to aid others, especially his students, with his stores of knowledge and ripe judgment, doing so generously, often to his own deprivation in time and energy.[2]

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[1] Minutes of Board of Trustees of Drake University, June 28, 1881.

I

William Stebbins Barnard was born on February 28, 1849. His parents were then living on what was called the Cottonwood Grove Farm about three miles from Canton in Fulton County, Illinois, about forty miles straight east of Fort Madison, Iowa. He was the second of five children born to Theodore and Serena Barnard.

His parents were of New England ancestry with the educational traditions of that section. The father was born in Troy, New York, but was descended from forebears who had settled in Deerfield, Massachusetts, in prerevolutionary days. His mother, Lucy Stebbins Barnard, was the daughter of a Colonel Joseph Stebbins whose line traced back to one Rowland Stebbins who fled from France in 1594.

Young William's schooling started in a log schoolhouse located a mile or more from his father's farm, half a mile from a road to which he had to trudge anon through mud and snow, where he worked at desks made of "rough boards," seated on benches of "split roughly hewn logs with wooden pins for legs" on floors also of hewn logs. The pupils appreciated the rough realities of life and education. In time that school was incorporated in Canton Union High School District in which he continued his secondary education. Family tradition has it that he displayed the common characteristics of ordinary live boys, now and then joining with pranksters in "playing tricks on the teacher" after the manner of pioneer practice. His progress was seriously interfered with by an attack of typhoid fever which kept him out of school for the major portion of a year. Attendance at private schools in the summer vacation enabled him to catch up with his classmates. Among his accomplishments was proficiency in playing the flute and the guitar.

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[2] For the personalia and much of the scientific data in the following sections I am especially indebted to the following named persons: Professor Barnard's son, William N. Barnard, since 1906 professor of heat-power engineering, College of Engineering in Cornell University, Ithaca; Dr. Barnard's brother, Mr. Charles H. Barnard, of Palo Alto, California; Hon. Henry C. Wallace, Secretary of Agriculture, 1921-24; Dr. Leland O. Howard, chief of the Bureau of Entomology, 1897-1926; Dr. Herbert Putnam and his assistants of the Library of Congress, Washington, D. C.; Mr. Otto Kinkeldey, librarian of Cornell University, Ithaca, N. Y.; Mr. Charles H. Brown, librarian of Iowa State College, Ames, Iowa; Mr. Edgar R. Harlan, Curator of the Historical Department of Iowa; to Misses Helen Lightfoot and Ruth Lombard of the State Library, and Miss A. A. Haxmeier of the Historical Department I am especially indebted for the finding of documents, periodicals and aid in reading copy.

Near his father's farm was an old fort or stockade to which the early settlers fled when Indian forays threatened; and among his youthful diversions was picking up the arrowheads and flints and other remnants of primitive life, which may have had no little influence in his later interests in archaeology. The cultural level of his family circle may be inferred from the fact that his parents subscribed for and received the *Ledger* of Philadelphia, *Harpers' Weekly, Harpers' Monthly,* the *Atlantic Monthly,* and one of Chicago's daily papers.

After two years in the Canton High School he indicated his desire to go on with his schooling in the preparatory school of the University of Michigan. His parents promptly concurred and substantially furthered his plans. In the fall of 1867 young Barnard and a classmate journeyed to Ann Arbor and registered in the College of Liberal Arts of the University of Michigan. There are no memoranda of his experiences at Ann Arbor, save that in his home circle there is a tradition that he with others refused to join one of the "self-selected" aristocratic groups then as now called "fraternities," and stood out rather conspicuously as an "independent."[3]

II

At the end of his first year at the University of Michigan young Barnard decided to enter the newly established Cornell University at Ithaca, New York. What precisely caused him to leave Ann Arbor and attracted him to the newly established institution on Lake Cayuga cannot be stated with assurance; but we may presume that it was in part the distinction of its new president, Dr. Andrew D. White, who had achieved fame as professor of history at the University of Michigan (1857-64), and in part the emphasis upon the physical or "natural" sciences —biology and botany, geology and zoology—in the first pronouncements of Cornell. In view of his subsequent career we may be fairly certain that it was the presence of such men as

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[3] Mr. Charles H. Barnard in various letters (MS) to F. I. Herriott, letters dated at Palo Alto, California.

Professors Louis Agassiz, Charles F. Hartt, James Law, and B. G. Wilder on the teaching staff that influenced him in his decision to enter Cornell University. But there were other stars that lured him towards Lake Cayuga. Mr. George William Curtis, the author of *The Lotus Eaters,* Professor James Russell Lowell of Harvard, Theodore W. Dwight of Columbia, and Bayard Taylor were announced as among the visiting lecturers; and further, President White had secured one of Oxford University's brilliant dons, Goldwin Smith, as professor of English history. Who would not be attracted by such a galaxy![4]

William S. Barnard entered Cornell University when the dreams and plans of Ezra Cornell and President White for what was then deemed by the learned bigwigs a dubious experiment in "higher" education were in process of realization.[5] They undertook to assure the general public not only liberal studies in the humanities, in the classics, literature and philosophy, but also discipline in the basic physical sciences and training in the "practical" arts—in agriculture, architecture and chemistry; in engineering, civil, electrical and mechanical; in horticulture as well as in law and medicine.[6] Young Barnard was there when the plans of Frederick Law Olmstead for the architectural arrangements were being achieved in the erection of dormitories; of Morrill, McGraw, Sibley and White halls, and when men of wealth were coming forward with generous gifts for the endowment of chairs, laboratories and libraries.[7] It was a time of glorious awakening and illumination for him and his fellow collegians.

We have no memorabilia of Barnard's personal experiences in his undergraduate days at Cornell. Whether by natural attraction he became interested in the "natural" sciences—botany, biology, geology and zoology—or whether class work and lectures under Professors Hartt and Wilder, both students under Agassiz, first fascinated him, we cannot say. But certain it is that he soon attracted the favorable attention of those two distinguished members of Cornell's faculty, with one notable result for the young man from Canton, Illinois.

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[4] C. D. Von Engeln in *Concerning Cornell* gives a list of Cornell's first faculty with pictures of most of them, opposite p. 176.

[5] President Eliot of Harvard predicted failure. See his article in the *Atlantic Monthly,* Vol. XXIII, p. 215. Cited in Von Elgeln, *op. cit.,* p. 178.

[6] W. I. Hewett: *Cornell University—A History,* Vol. I, Ch. XX.

[7] *Ibid.,* Vol. I, pp. 305-6.

Professor Hartt had accompanied Agassiz to Brazil in the noted Thayer expedition of 1865-66. In 1870 Professor Hartt was asked to superintend the Morgan expedition to the same country, one purpose of which was to gather data to confirm or disprove Agassiz' theory of the effects of glacial drift in the Amazon basin. Among the technical assistants he asked to accompany him was young Barnard. Evidently his ability, alert intelligence and industry had attracted more than a casual flitting interest on the part of his instructors at Cornell or such an invitation would not have been tendered one so young.

III

What general or particular tasks were assigned young Barnard in the forepart of the expedition, whether to note and study the botanical or the geological, the zoological or the archaeological phenomena of the laterals of the Amazon River, is not quite certain. In October, however, Professor Hartt directed him to explore and to report upon the archaeological remains in and about Lake Arary on the island of Marago, the lower major island at the mouth of the Amazon River. His "Notes," kept in the fashion of a diary or journal, written in pencil on yellow sheets of ordinary note size, give us much miscellaneous data, and more or less descriptive and anecdotal data of his experiences and observations. They were jotted down at various hours of the day. He had evidently familiarized himself with Portuguese and Spanish, for local linguistic descriptives intermingle constantly with scientific terms for animals, fruits, plants and trees.[8]

The *Notes* open October 11, 1870, with the entry, "Derby and Wilmot[9] left this noon for Moronao. I start this evening for Lake Arary on the Island Marago. Professor Hartt and Eldredge return to Amazonas." The next morning at 8 o'clock his boat entered the river Arary. After passing an island, whence they had obtained a good canoe, he makes the following entries which show that he had an eye for all species of life:

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[8] *Notes* (MS), by W. S. Barnard, made while in Brazil, 1870. The manuscript begins with page 130.

[9] Messrs. Derby and Wilmot were classmates of Dr. Barnard of the class of 1873. Orville Derby became a geologist of note, being geologist of Brazil from 1907 to 1918 (*Who's Who in America,* Vol. XX); De Borden Wilmot became a prominent lawyer of New York City (Hewett, *op. cit.,* Vol. IV, p. 595). Mr. Rolfe Eldredge, who accompanied Professor Hartt in his explorations at Ereré in the Province of Para, states that one of the new trilobites—*Tentaculities Eldredgianus*—was dedicated to Mr. Eldredge (*Annals of the Lyceum of Natural History,* Vol. XI, p. 127).

> After them two young Negro women came out in a canoe. They appeared as intelligent as any women I have ever seen. One had features as fine as most any white lady I have ever seen & eyes exceedingly bewitching. They had hair, however, which stood out nearly straight about 6 inches long. They appeared very neat and rowed the canoe very gracefully. . . . . Their hair showed that they were of a cross between the Indian and Negro. . . . ."[10]

Twice he escaped catastrophe by narrow margins. Once a huge alligator suddenly appeared in midstream and dashed ferociously towards his canoe. His Indian guide, who was supposed to have his rifle constantly within his (Barnard's) reach, was not within range; but a lucky shot from his revolver in the creature's eye stopped his onslaught.[11] Again he and his Indian guides found themselves in sore straits when a drove of wild hogs routed their dogs who retreated to their masters for protection, and the latter had to climb trees to escape a horrible fate. Barnard apparently had to hang at arm's length from a limb of his tree, and was very near the point of exhaustion when the hogs departed.[12]

On October 22 at 12:55 P. M. he entered the mouth of Lake Arary and came to the Island of Pacova on which was the ancient cemetery of the Indians—the exploration of which was the objective of his particular journey—located near the west shore slightly above the middle line of the lake. The burial grounds had been built up by the Indians between four and eight feet above the shore line to safeguard the burial mounds against the surge of spring or fall floods.[13] He found the shore littered with broken pottery which he says was "very nicely ornamented or figured with signs."[14]

His most interesting and puzzling find was the discovery of burial urns containing the bodies (or skeletons) of the dead in a sitting posture, the arms clasped about the knees and the head forward resting on the knees. The openings and the necks of the burial pots were too small to allow the body to be inserted or pushed in, yet he so found them. Among various explanations he suggests that the urns were made after death, built up or moulded about the body.[15] Among his comments on the pottery and earthenware I take the following:

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[10] *Notes*, p. 134.

[11] Charles Barnard to F. I. Herriott, (MS) letter dated at Palo Alto, California, November 30, 1935, relates the incident.

[12] *Notes*, pp. 256-59.

[13] *Ibid.*, pp. 217-18.

[14] *Ibid.*, p. 195.

> The execution, shown in the general form and in the detail of the ornamentation of their earthenware, indicates a considerably advanced artistic taste and appreciation; also that certain ones must have been specialists in the manufacture of the vases. This, with the large number of pots in each cemetery and the number of different kinds of fruit trees grown on the cemeteries which I visited, make me [conclude] that these people cultivated plants to some extent. I think that these cemeteries marked permanent camps or small villages.[16]

There were other things besides plants and trees, animals and pottery of which his journal makes note. We are given brief glimpses of the character of the government and of the inhabitants of the island.

> This island of *Marago* is a government *Parish.* All the inhabitants—Donons and all—are slaves of the government and go at its orders or the governor. Slavery here is possible only as a governmental institution. Soldiers are necessary chiefly to enforce slavery. Without slavery all the Fayendas would go down and Sugar &, the produce of labor could not be obtained. Cattle could not be raised on the campus, but would all go wild, and none would go to market, but like the deer would be taken occasionally and eaten by the inhabitants near their haunts. This is because the people are lazy, and do not care to work for money. The country is so rich they can live without money, or with very little.[17]

His *Notes* are crowded with interesting miscellaneous data relating to the flora and fauna of the regions he passed or visited, and with pencil sketches of birds and topography and particular sites that we might stop to consider. He had an eye which was at once microscopic and telescopic in discernment and comprehension; and his alert mind saw significance in the minutia of geological drifts or strata, in the myriad varieties of fauna and flora and in the archaeological remains. But suffice it to say that he returned to Professor Hartt with a considerable collection of valuable specimens that formed the substance of learned articles by Professor Hartt who publicly gave credit to his young assistant.[18]

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[15] *Ibid.*, p. 216.

[16] *Ibid.*, a memorandum or note inserted between pages 216 and 217.

[17] *Ibid.*, pp. 221-22.

[18] *The American Naturalist*, Vol. V, p. 260. Specimens of idols, burial jars and ornamental pottery gathered by young Barnard are reproduced pictorially in Professor Hartt's article on "The Ancient Indian Pottery of Marajo, Brazil," published in the July, 1871, issue of *The American Naturalist*, *Ibid.*, pp. 259-71.

In his preliminary report on the Morgan expedition, Professor Hartt says:

> Mr. Barnard did some good work. On his return he gave himself up to natural history. If to discover a new carboniferous fauna will repay a journey to Brazil, of how much greater importance is the discovery of a new naturalist? Had the expedition produced no other results than to have added four new names to science, I should consider the time and money well spent.[19]

From the context it seems clear that W. S. Barnard was the one to whom the flattering reference is made.

IV

Mr. Barnard completed his undergraduate course at Cornell in 1871. His ambition and energy were displayed by his departure that fall for Germany, where for two years he pursued lectures and studies in natural history at the universities of Berlin, Bonn, Jena, Leipsig and Munich, with some studies in France and Italy. His important studies were under Karl Gegenbaur and Rudolph Leuckhart, both of Leipsiz, and Ernst Haeckel of Jena. His thesis was a study prepared under the supervision of and submitted to the celebrated Haeckel at Jena, whence he obtained his doctorate on February 15 in 1873. His thesis was entitled *Beitrage zur Myologie des Simia satyrus (Orangutan) besonders über die Morphologie der Beinmusculatur,* (Contributions to the myology of Simia satyrus *(Orangutan)* and especially the morphology of the limb musculatur).[20] Professor Haeckel spoke of his work in high terms, asserting that his studies exhibited "the highest degree of excellence."[21] Barnard was one of two out of forty-one of his class of '71 who obtained their doctorates abroad.

Dr. Barnard returned to Cornell. He was a lecturer on histology and Protozoa for the year 1873-74. In the summer of 1874 he was one of the lecturers in the Anderson School at Penikeese, on Buzzards Bay in Massachusetts, the famous first summer school conducted under the patronage of Agassiz. During 1874-75 he was professor of natural science in Mississippi

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[19] *Preliminary Report of the Morgan Expedition to Brazil,* Vol. I, p. 3.

[20] Dr. Lockman, director of the University Library of Jena, Germany, to Professor Adelmann of Stimson Hall, Cornell University, (MS) letter (photostatic copy) dated at Jena December, 1935.

[21] Quoted in *The American Naturalist,* Vol. XXI, p. 1136, December, 1887.

Agricultural College. In the summer of 1875 he was lecturer on zoology at the Illinois State Summer Schools at Normal and Peoria, and the next year he was professor of natural science at the Wisconsin State Normal School.[22]

On July 7, 1874, Dr. Barnard married Mary Nichols, daughter of a dentist of Boston, Massachusetts, a sister of Mrs. B. G. Wilder of Ithaca.

In the summer of 1876 President George T. Carpenter of Oskaloosa College at Oskaloosa, Iowa, asked him to be professor of natural science at that institution, which position he held until the summer of 1878. That summer he went south to carry on studies of the cotton worm for the Bureau of Entomology at Washington. During the winter of 1879 he continued some of the investigations started in the previous summer. Meantime, on account of politics or other complications Dr. Riley, who had asked Dr. Barnard to make the investigations, resigned and Professor Comstock of Cornell was asked to take over the work; and Dr. Barnard came back to Cornell as assistant professor of entomology and lecturer on the zoology of invertibrates, which positions he held until 1881.

Ad interim, in 1878, according to *The Ten Year Book,* 1888, of Cornell University, Dr. Barnard was appointed the "zoologist" on the technical staff of the "Woodruff Scientific Expedition," sponsored and financed by Mr. James C. Woodruff, of which Professor B. G. Wilder of Cornell was to be the chief in charge. That undertaking was a rather ambitious project—a prototype of the modern "floating university" of recent years. A ship, the Ontario, capable of carrying four hundred students in addition to the technical staff and the ship's officers and crew, was chartered; and plans were made for sailing down the eastern coast of Mexico, Central and South America, thence up the west coast, thence to Hawaii, to Japan and China, thence through the islands of the Indian Archipelago and around Africa, stopping at notable points to get acquainted with the geology, animal and plant life, the archaeology, anthropology, ethnology and social life of the inhabitants of each country visited. Precisely what part Dr. Barnard had in the expedition and how long he was actually with it is not quite clear, for the financial sponsor died in June of 1879 and the general program could not be realized.[23]

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[22] *The Ten Year Book of 1888* of Cornell University, pp. 55-56.

The esteem in which Dr. Barnard was held by the authorities of Cornell University may be inferred from the following excerpts respecting him taken from Professor W. I. Hewett's *History of Cornell University,* published in 1904:

> Although the department [of comparative anatomy] possessed the only compound microscope in the university, no advanced work was done with it, or systematic instruction offered in its use, until 1873. In that year Dr. W. S. Barnard of the class of 1871 returned from Germany after a course under Gegenbaur, Leuckhart, Haeckel and others. During the two following years he did much original work as a graduate student in histology, and in the study of Protozoa.[24]
>
> During his [Professor Comstock's] absence, the work of this department [entomology] was carried on by Assistant Professor William Stebbins Barnard. . . . . During Dr. Barnard's administration of the department he made important contributions to our knowledge of the habits of certain insects. The most notable of these was his account of the habits of the pear psylla, which was published in the proceedings of the American Association for the Advancement of Science for 1879. In this paper he pointed out the serious nature of this pest, which ten years later destroyed many of the pear orchards of this state, and was the subject of an exhaustive investigation conducted by this department in 1891 and 1892.[25]

V

Dr. Barnard's studies of insect life, especially in relation to its connection with agriculture and horticulture, attracted the attention of Dr. C. V. Riley, then widely known for his work as state entomologist of Missouri, and as editor of *The American Entomologist.* Some of the results of his observations and studies appeared in various publications as follows:

"New Rhizopods," in the *American Quarterly Microscopical Journal* for January, 1879 (one plate).

"Some Interesting Insect Habits and Their Development," in the *Proceedings of the American Association for the Advancement of Science,* 1879, Vol. XXVIII, pp. 472-78 (one plate).

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[23] *Scientific American* for September 8 and 22, 1877, and June 29, 1879. In a letter to Professor William N. Barnard, dated at Ithaca, New York, April 25, 1936, Professor S. H. Gage says of the failure of the Woodruff Expedition, ". . . the inquiry fell through. It was not wholly because Mr. Woodruff died. He died partly because of the failure of securing enough paying students. You see it was to be a sort of traveling college, not a mere collecting and scientific expedition. Only a few students could be induced to invest enough time and money, and hence the whole thing fell through, and Mr. Woodruff's keen disappointment was at least a contributing factor in his death."

[24] Hewett, *op. cit.,* Vol. II, pp. 205-6.

[25] *Ibid.,* pp. 196-97.

"The Bud Blight Insect," *ibid.*, pp. 478-86 (one plate); Vol. XIV, pp. 233-42.

"Protoplasmic Dynamics," in the *American Naturalist*, April, 1880.

"The Army Worm," in the *N. Y. Journal* published at Ithaca, July 9, 1880.

"Buccalatrix Cocoons," in *The American Entomologist*, Vol. III, N. S. Vol. I, p. 76 (March, 1880).

"European Tussock Moth," *ibid.*, p. 77.

"Campodea Fragilis Meinert," *ibid.*, p. 199 (August, 1881).

"Parasitic Rove Beetle; *Aleochara anthomyise* Sprague," *ibid.*, pp. 199-200.

"Entomological Legislation," *ibid.*, p. 222 (September, 1880).

"Parthenogenesis in Orgyia Antiqua," *ibid.*, p. 227.

"Dominican Case Bearer," *ibid.* (illustrated).

Several of the titles listed above were in the form of letters to the editor of the *Entomologist*. If space limits permitted it would be instructive to summarize Dr. Barnard's observations and suggestions on some of the subjects dealt with. Parthenogenesis, or asexual reproduction in insect life was a matter of lively interest to biologists in the seventies and eighties. He found the eggs of the tussock moth within the cocoons on the willow trees and asks, "Must we conclude from this that there are no males to this generation, and that wingless females are parthenogenetic? To me it seems so."[26] The subject attracted him especially in 1880. He had fifty specimens under close observation between January and August.[27] He watched the nature and proceedings of the parasitic rove bettle and concluded that it was "the best enemy against the fly which has ruined so many crops here [Ithaca]."[28]

In view of the extraordinary public interest today in the promotion of agriculture by legislative acts and governmental supervision thereof, especially in the prevention or destruction of insect pests that menace crops and orchards, his pointed and urgent suggestions in his article on "Entomological Legislation" are interesting. He urges:

> . . . . a set of law for all states. They would be as beneficial and as easily enforced as the game laws. . . . . Only by some such arrangement can farmers be compelled to co-operate for their own interests and successfully combat the thieves which are robbing them of their produce.

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[26] *The American Entomologist*, Vol. III (n. s. Vol. I), p. 77, col. 2.
[27] *Ibid.*, p. 227.
[28] *Ibid.*, p. 200.

> . . . . Who will be the first to move in this project and see its execution?[29]

We shall have occasion to note other pithy suggestions of Dr. Barnard urging public action to protect the cotton industry of the South against the insect pests which menaced its basic sources.

During the seventies the biologists were rapidly awakening to the enormous influence of micro-organisms in the weal or woe of mankind, Louis Pasteur's researches and discoveries opening up vast and various vistas in what we may call invisible nature known chiefly through the microscope. Dr. Barnard clearly indicated his appreciation of this important field in an article in *The Popular Science Monthly* for October of 1879 under the caption, "Micro-organisms and Their Effects in Nature."

> What is too small to be seen, people are generally apt to regard with contempt or indifference, as of no practical consequence. This is one of the grossest of popular errors. There is not only a profound scientific interest in the realm of microscopic life, which is every day becoming deeper as its organisms are viewed from the standpoint of evolution, but they have a significance in the economy of nature, a usefulness to man, and a value in the industrial arts, of which but a few glimpses have as yet been popularly obtained. To the inquiry: Of what services are those swarms of infinitesimal objects which are revealed only through the microscope? Do they subserve any other purpose than to amuse infatuated microscopists? The reply is that their operations in nature are on a grand and imposing scale, and that their influence on man and other organisms, as well as on the air, the water, and the solid earth, is nothing less than enormous. Although we do not see these infinitesimal creatures at work, their proceedings are none the less real; and though their operations are infinitesimal, the aggregate results are vast and in the highest degrees important. It may be shown: (1) That, as *food,* they feed a greater number of beings than any other kind of organisms; (2) That, as *scavengers,* they eat more refuse than any other group of organisms. (3) That despite their minuteness, their *fossil remains* are much greater in *bulk* and of far more consequence than those of large quadrupeds and serpent-like monsters, such as the *mastodon, megatherium, plesiosaurus, ichthyosaurus,* etc. (4) That, as *builders,* they have produced immense structures, which far surpass in size all the colossal works of man. The evidence of these statements will be presently given, but meantime it may be remarked that such grand results redeem the study of microscopical objects from that pettiness which is often imputed to it.[30]

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[29] *Ibid.*, p. 222.
[30] *Popular Science Monthly,* Vol. XV, pp. 764-65.

Dr. Barnard found himself in a distinguished company in that issue of *Popular Science Monthly*—three notable British writers and one American. He was preceded by Professor G. J. Allman, president of the British Association for the Advancement of Science, on "Protoplasm and Life," and Professor Alexander Bain of the University of Aberdeen on "John Stuart Mill." He was followed by George J. Romanes on "The Science and Philosophy of Recreation," and Major J. W. Powell, head of the Bureau of Ethnology at Washington, on "Mythological Philosophy."

VI

In 1881 Dr. Riley was reappointed chief of the Bureau of Entomology at Washington, and Professor Comstock returned to Cornell University. Dr. Barnard was called to Washington and made assistant entomologist of the bureau and for the next five years served in that capacity. It was this engagement which interfered with his coming to Drake University in 1881.

Dr. Barnard was immediately assigned again to an investigation of the cottom worm that was then menacing the cotton industry of the South, the damage being estimated at $15,000,000 annually. He continued his studies in this field begun in the summer of 1878. He was sent to Selma, the county seat of Dallas County, Alabama, in the heart of the cotton belt. In due course he conducted his researches in Georgia, Louisiana, Mississippi and Arkansas. His work covered three general divisions: (1) Experiments with insecticides and various corrective and preventive measures. (2) The construction of mechanisms or devices for effective use on a large scale of the insecticides. (3) Observation of the nature, species and activities of the insects affecting the cotton plants. In each division of his work he achieved results that were more than ordinary.

Addressing the delegates to the Cotton Convention in session at Atlanta on November 4, 1881, Dr. Riley made specific mention of Dr. Barnard's work in connection with the serious dangers to life and health which he encountered in the prosecution of his intimate studies of the cotton worm. Referring to the most important and interesting sections of the cotton belt for study he said that they were:

> . . . . most malarious and unhealthy [because of the menace of yellow fever]. . . . . Few of my agents have escaped sickness after a summer's work in the field. Professor W. S. Barnard, who is here with me now in charge of the machinery on exhibition beneath this hall, and to whose perseverance and ingenuity we owe various important mechanical contrivances, was so seriously ill at Selma last fall that I at once almost despaired of getting him back safe to his home in the North. I mention these facts because the synopsis of results which I shall now endeavor to present to you will convey no adequate idea of the time and labor involved in getting at the truths which once obtained appear simple enough. "What is missed is mystery; what is hit is history."[31]

If the cotton industry was to be saved from the serious losses, if not its destruction, threatened by the cotton worm, two objectives had to be achieved: (1) An insecticide had to be discovered or hit upon which would be effective, cheap and easily applied; one, too, which would not kill or injure the soil or the cotton plant, its roots, leaves, blossom or boll, or the fibre or lint. (2) An invention of a device or mechanism, cheap and practicable wherewith the insecticide could be either injected into the soil about the roots or sprayed upon the cotton plant, its stock, leaves, flower and boll. If the device was to be effective, the primary and exacting problem in the latter case was that the insecticide must be ejected upward from either the ground or underneath the plant so as to hit the underside of the leaves and boll whereon the worms clustered. Otherwise, much, if not most of the spraying would be futile.

The history of the efforts or experiments to secure a feasible insecticide is a long history much mixed with controversy into which it is not necessary to enter, even if space permitted. Dr. Barnard, however, holds more than "honorable mention" in its pages. In a paper read before the Society for the Promotion of Agricultural Science in Washington, D. C., August 17, 1891, Dr. Riley, summarizing the history of the experiments up to that date of "The Kerosene Emulsion," states, "The late Dr. W. S. Barnard first suggested the use of milk."[32] Dr. Leland O. Howard was an associate of Dr. Barnard in the bureau from 1878 until 1886, continuing as assistant entomologist until 1894 when he was made chief, which position he held until 1927. He writes that Dr. Barnard was "the first inventor of the kerosene-milk emulsion to enable the dilution of kerosene with water as an insecticide."[33]

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[31] *Report of Commissioner of Agriculture for 1881-1882*, p. 154.

[32] C. V. Riley: "The Kerosene Emulsion—Its Origin, Nature and Increasing Usefulness," in the *Proceedings of the Society for the Promotion of Agricultural Science*, p. 83.

Dr. Barnard's name is intimately connected with the invention of what is called the "cyclone nozzle" for spraying the underside of cotton plants. In the *Fourth Report* of the Entomological Commission for 1885 he contributed 321 pages with 61 plates, most of which he either drew or sketched himself or had done under his supervision. Dr. Riley, chief of the commission, refers to his work as follows:

> Experience had shown that a professional engineer was not best fitted for the work, and we were finally fortunate in securing, in the summer of 1880, the services of Dr. Barnard, who, in addition to his knowledge of natural history, possesses mechanical ingenuity of a high order. After giving some time to general observations in Mississippi and Alabama in the summer of 1880, he was called to Selma the latter part of August, and charged with mechanical work. It was there and early in September that the cyclone nozzle originated in our endeavors to contrive something that would throw a spray from the ground up. The question was discussed between us as to whether water forced tangentially into a flattened disc would rotate and issue from an outlet in a straight or in a spreading jet. Dr. Barnard took the latter view, and a disc, improvised by means of two watch crystals, so as to permit the motion of the liquid to be seen, proved that he was correct. The size and form finally adopted is the result of numberless subsequent experiments covering a period of nearly two years.
>
> While we have always had a number of original ideas to carry out and our direction of this work has been active, yet Dr. Barnard's assistance was fertile from the first, and there is so much that has resulted therefrom that the preparation of these chapters was finally assigned to him, and he deserves much of the credit that attaches to them.[34]

In the *Catalogue of the Exhibits of Economic Entomology* at the World's Industrial and Cotton Centennial Exposition at New Orleans, 1884-85, published by the Bureau of Entomology, Dr. Barnard is the only one mentioned in the letter of transmittal in connection with the section of "Insecticide Machinery and Contrivances for Destroying Insects," as follows:

> . . . . and it will be noted that a large proportion of the more useful contrivances are such as have been designed and perfected in the work of the Bureau or of the U. S. Entomological Commission during the past

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[33] Dr. Leland O. Howard to F. I. Herriott, (MS) letter dated at Washington, D. C., March 26, 1935.

[34] C. V. Riley in the introduction to W. S. Barnard's *Report of Machinery and Devices for the Destruction of the Cotton Worm*, (author's edition) p. iv.

four years, and chiefly by the aid of Dr. W. S. Barnard, who has had charge of this part of my work.[35]

Dr. Barnard applied for patent rights for his emulsion and for his cyclone nozzle spray in May, 1882. Sundry antecedent and collateral claims, however, delayed the issuance of the patents which were finally granted in April, 1897, almost ten years after his death. The most bothersome counterclaims were those of Dr. Riley who insisted that he be accorded one half interest in them, or the bureau of which he was chief.[36] The commissioner of patents declared, however, that the evidence showed that "Barnard originated the basic idea of the improvement in question."[37] Mr. Lodeman in his volume, *Spraying Plants* (1896), not only credits Barnard with originating the nozzle spray, but states that he was "unfortunate" in that others had their names attached to the invention "which is without doubt the most important of the many bearing on the subject of spraying."[38] Dr. Howard informs me that it was taken up by "certain manufacturers and came into use very extensively in France in the early work against Phylloxera and was made very extensively by Victor Mermorel and became known over there as the "Mermorel nozzle."[39]

VII

Recalling his associate in the bureau nearly half a century after, Dr. Howard says of Dr. Barnard that he "was a good, broadly educated biologist . . . . and a good investigator."[40] All accounts concur that he was an alert observer, keen in his discernment, indefatigable in his researches, widely read in the literature of his subject, and quick to sense the basic significance and interrelations in the mazes of minutia which his investigations comprehended. Various instructive exhibits of his work in the cotton fields might be offered. One will suffice and because it affords a good illustration of his close observations and of his concise, lucid style of exposition and habits of induction from his data, I venture to quote at considerable length from an article on "The Cotton Worm" which he contributed to a publication in Philadelphia in March, 1882:

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[35] *Catalog of the Exhibit of Economic Entomology at the World's Industrial and Cotton Centennial Exposition, New Orleans*, 1884-85, p. 4.

[36] W. N. Barnard to F. I. Herriott, (MS) letter dated at Ithaca, New York, February 27, 1936.

[37] Quoted in E. D. Lodeman, *The Spraying of Plants* (1896), p. 202.

[38] Lodeman, *op. cit.*, p. 203.

[39] Howard, *op. cit.*

[40] Howard, *ibid.*

> The cotton worm is now assuming a very conspicuous part in connection with the great staple industry of the South, and a much wider interest will be aroused by the researches and experiments . . . . to discover the life history and methods of opposing the ravages of this little creature, which appears in myriads to devour the foliage from the growing crop. . . . . Indeed the cotton worm should now occupy a foremost rank with our leading insect rogues, its mischief being not exceeded by the maraudings of the Colorado potato beetles, the Western locusts and the wheat flies of the North.
>
> . . . . .
>
> The presentation of some of the facts suggested by my work in this undertaking may prove of interest to many readers.
>
> But let us first get acquainted with its different appearances and habits in the successive forms or stages of development which it assumes. These are partly illustrated in our sketch. The foliage of the plant has already become ragged with the notches and holes eaten by the worms, which are generally not noticed until the sad condition of the plants exhibits their work. . . . . On examining carefully we find that the larger worms, which are one and one-half inches long or more, and somewhat like cutworms, have the three pairs of front legs and the four hindmost pairs of legs like those of other caterpillars, but the two foremost hind legs are so much shorter that they cannot be used and are worthless, rudimentary appendages. Looking about we shall find that to some extent the larger worms venture to expose themselves on the upper surfaces, but they are very shy and always on the alert for danger. The slightest disturbance causes the worm to swing the fore half of its body from side to side in a vibratory manner, and if more severely alarmed it hurls itself headlong from the plant in such a sudden wriggling and spasmodic way as almost to startle a person and make it not an easy matter to observe the direction in which the creature disappeared; but upon looking beneath he will be found somewhere on the ground hastily creeping toward the plant. These wild actions seem as though a kind of craziness and frenzy had seized upon it; but all have meaning and purpose for its well-being and are founded in its organization and instinct. The jar which causes it to hurl itself away in a confusing manner must be as heavy as that from a bird alighting on the plant in search for worms. In a state of nature that instinctive behavior has been probably acquired as the only possible method of escape from its enemies among the birds, many of which are exceedingly fond of such delicate morsels as these delicious, juicy caterpillars. The blackbirds especially sometimes appear in large numbers and make great havoc among them. The indictation that a fatal catastrophe is at hand is instantly acted upon by the worm, which has such imperfect eyes that it cannot distinguish forms, but only the difference between light and darkness, and hence does not know a man from a bird.

But why the rapid vibratory swinging of the front half of its body which appears upon the slightest disturbance? An explanation was forced upon me one hot day in August as I sat among the cotton plants in southern Arkansas, watching these and other insects there at work in great abundance. Among the other insects it has many enemies, seeking its destruction. For example, the large red wasp, eagle-like, would seize the worm and fly off bearing it away to devour it bodily; the ants would pounce upon it tearing like a pack of bloodthirsty wolves; and the soldier bug would pierce it with his sabre-like mouth to suck out its vital juices; while the tachina flies were most numerous and active of all, watching the worms and darting suddenly at their fore parts, which were vibrated at every attack, as also when a fly lit upon the same leaf. This vibratory motion upon the slightest disturbance was to ward off and confuse its tiny insect enemies, but is apparently best adapted against the tachina flies which are probably the worst of its destroyers. These little black imps seem only to be sporting with the worms and might be regarded as very innocent playmates, for one cannot notice that they do any immediate harm to the worms. But their later history has been well observed. When the worms have matured and are transforming, great numbers die and are found to contain maggots which have killed them. These maggots when kept and watched are seen to metamorphose into those active winged insects, the tachina flies, and we have been viewing the sportive procedure by which they in turn produce the maggots in the caterpillars. The fly darting successfully enough to touch the worm plants on its skin a very small, adhesive white egg which can only be seen by very close inspection. This egg yields a little sharp-headed maggot which bores from the under side of the egg shell downwards through the skin of the worm into the interior of its body, where, as an internal parasite, it lives upon the less vital parts until nearly grown, when it destroys some of the more essential tissues, and the worm is thus killed while the maggot has a grand final feast and then transforms itself into the angelic condition of a tachina fly, which to the worm is an angel of death. When the flies were abundant their eggs could be seen on the majority of the larger worms. One fly which I captured alive and placed in a bottle with a worm, put several eggs upon it and sometimes two, three or four eggs could be found on a single one of the worms seen on the plants.

Now, why did the worm vibrate only the fore half of its body? Because this is the part which the fly darted at and put its eggs upon. Why did the fly aim only at the front region of the worm? Because the insect, or its egg, or the irritating young maggot, if on the hind half of the body would receive a blow from the worm, which can thus strike back upon itself with its hard head, but it has no means of removing the egg or the maggot from over the fore part of its body; and this is the vulnerable point which the fly instinctively aims at, although it is more active and harder to hit than the hinder parts.

. . . . .

The question, "Whence come these myriads of worms?" has long been asked by the planters. By very close search they are found of different sizes and ages from time to time, but while young and small they remain concealed under the foliage gnawing small spots from its under suffice. These light patches always indicate that the young worms have appeared.

It is a much more difficult task to find the very minute, flattened somewhat, apple-shaped eggs, smaller than the head of a pin, whence the youngest worms are seen to hatch out; but a trained observer can discover them quickly whenever they exist, and can also tell a good egg from a bad one by its color and degree of transparency, or see if it contains a young caterpillar or a young parasite, for strange to say even these tiny eggs are often infested. An insect of almost microscopic dimensions inserts its own egg inside these other eggs, and the former yields a maggot which eats the embryo caterpillar in its shell.

As the normal end of the egg is the beginning of the worm, so the latter changes into a different shape, known as the pupa form, which it takes on after rolling itself up in a leaf and stripping off the entire skin from its body, which gets a hard outer surface. In this condition it lies dormant to transform into a moth or miller, resembling some of our common so-called candle flies. Like them it often enters houses in the night, being attracted by the light. Indeed, at times when they were swarming near the Alabama River, I have seen over a hundred enter an open window in a single evening; and the great electric lights at the Exposition Hotel in Atlanta, Georgia, became surrounded and covered by swarms, often a quart of the dead moths accumulating in the globe of each burner in a single evening, while the ground beneath would be littered with the killed and wounded.

The moths fly to fresh fields to lay their eggs, whence new worms develop, and thus several generations of moths and worms successively appear during the year, although the broods generally do not become notably large or destructive until the latter part of the season. Then they often strip all the foliage from the cotton over a large part of the South, preventing a portion of the crop from maturing, and their filth somewhat impairs much that is already perfected. Often they take that proportion of the crop which the planter should clear above his expenses or much more, and this has become a great discouragement over extensive regions which are regularly afflicted. During the past autumn the cotton of the entire South was stripped completely of its leaves from the Gulf to Kentucky.

Although this pest is a very old one, its depredations in recent years have become worse and worse until a war against it became necessary and the leading planters now systematically apply poison on their plants to kill the insects which attack them. But not a few are too indolent or religious to adopt this practice, which pays well when properly done. As one individual of a certain class representing "the salt of the earth" expressed it: "The worms are sent upon us and we must submit; if we fight them we are flying in the face of the Almighty and he will make it worse for us. We can't beat Him." Such people may never learn that only those are helped who help themselves, and that poisoning might be an improvement on idle prayer.[41]

The foregoing narrative displays a number of interesting facts worthy of note in passing. First, Dr. Barnard was as effective in popular exposition as he was in technical scientific analysis and description. He expresses himself in clear-cut, concise, comprehensive language which conveys accurate and vivid impressions, which the lay reader easily follows. Second, he does not belabor or befuddle his lay reader with ponderous, sesquipedalian scientific terms—although, as we have seen in the various extracts previously taken from his scientific studies, he was easy master of them and had them at his pen's point, or his tongue's end. Third, his narrative suggests the close, constant attention he gave to minutia, wherein the basic or important facts surrounding or underlying his problem were to be found. Success in his work called for ceaseless patience and the utmost alertness and watchfulness in discernment and comprehension of the infinite variety of nature roundabout him—and all, too, far from the madding crowd, with no one to aid or to applaud him in his work.

VIII

During the seventies and eighties academic and lay circles were torn with acrimonious discussion over the truth or error in the theories of Charles Darwin, precipitated first by his epoch-making volume published in 1859 entitled *The Origin of Species*, and immensely aggravated in 1871 by his volume, *The Descent of Man*. The evidence, which for thirty years he had quietly but laboriously assembled, sifted and studied, seemed to indicate conclusively that mankind was not only a species of general animal kind but was a resultant of centuries of evolution from lower antecedent forms, mayhap ultimately from

> A fire mist and a planet,
> A crystal and a cell,
> A jelly fish and a saurian,

up to his present estate. The heavens were split with the rancorous contention of theologians and scientists as to the truth of the story of man's advent upon the earth given us in Genesis. Was that account controlling upon the judgments of men seeking the truth as to Nature's laws or principles and procedure?

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[41] *Our Continent*, March 22, 1882, p. 93.

What were young Barnard's first views on the hotly debated questions we cannot say precisely, but we may presume that he entertained the traditional views common in his home and neighborhood circles. Further, these views may have been confirmed when he heard the great Agassiz hurl his bolts against the Darwinian hypothesis. It must have been a stirring and trying time for him amidst the whirling discussion. But his mind was controlled by St. Paul's famous injunction to "Prove all things: hold fast that which is good." His thoughts and conclusions were coerced by Nature's phenomena and by the preponderance of the clearly sifted evidence. Slowly his studies, especially those he pursued in Germany under Haeckel, compelled him to see the basic similarities in the structures and functions of all animal species. Evidence was omnipresent that all forms of species were evolved from antecedent simpler forms, and Dr. Barnard did not ignore its import.

So far as I can discover Dr. Barnard did not venture into any of the rancorous controversial discussion which raged all about him in academic and lay circles. But there is clear evidence that he did not hesitate to go the whole length of the new theories of the origin of life and of mankind. At the meeting of the American Association for the Advancement of Science at Detroit in August, 1875, he appeared twice on the program. The Proceedings contain some thirty pages giving some of his "Observations on the Membral Musculation of the Simia Satyrus (orang) and the Comparative Myology of Man and Apes,"[42] which was a minute study of the similarities in the muscular arrangements of the orang in particular and extensive comparisons with those of man and apes.

That paper was in substance, if not entirely, his thesis which he had submitted to Ernst Haeckel in fulfillment of the requirements for the doctorial degree at the University of Jena in February, 1873. Needless to say, any one familiar with the ruthless contentions as to man's nature and origin entertained by Professor Haeckel need not be told that any old-time notions of the traditional or theological character as to man's ancestral origin would not be tolerated by Jena's belligerent critic of Bishop Usher's *ipse dixit.* The drift and nature of Dr. Barnard's observations may be easily discerned in the following paragraph:

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[42] *Proceedings of the American Association for the Advancement of Science*, Vol. XXIV, pp. 112-44.

> Finding these *communis* muscles in their typical condition among the lemuroids, and tracing them upwards step by step through all their degrees of differentiation until we reach their most specialized (proprius) forms in the higher apes and man, we follow out with proximate exactness the lines of descent of these specialized muscles from their ancestral typical forms, and this, as well as the inheritance of many rudimentary and other small muscles, may indicate the descent of man, the higher apes and the lemuroids from a common ancestry. Considering its myology we would not reckon the orang as man's nearest relative among the apes. In respect the gorilla and chimpanzee probably show closer affinities to the human race. Recognizing the wonderfully superior powers of man's brain and the surpassing functional capacity of his other organs, we cannot avoid concluding that as regards man's physiological or spiritual powers he differs in a greater degree from the higher apes than these do from the lower apes; yet when we observe the close structural resemblance of man to the gorilla, chimpanzee and orang and feel bound to conclude with Huxley (6) that these are more closely related to man than to the lower apes. This, then, leads us to an important distinction always to be made in expressing this relationship of man to the apes; namely, that *physiologically* and *teleologically* man stands farther from the higher apes than these do from the lower ones of their kind; whereas *morphologically* the higher apes rank nearer to man than to the lower apes.[43]

The drift of his exposition is not uncertain and it coincides with the course of the predominant scientific thought in the half century following, respecting man's relationship to the higher mammals.

About the time the foregoing was published Dr. Barnard published a portion of another interesting and instructive study in the *Popular Science Monthly* (December, 1875) under the title of "Opossums and Their Young." He was in distinguished company in that issue. Professor John Tyndall discussed "Martineau and Materialism" and Herbert Spencer dealt with "Idol Worship and Fetich Worship." If by chance any of the excessively orthodox had come upon that article and glanced through its contents they would have been astonished at the reach and sweep of some of his quiet observations and deductions suggested by the structures of an animal that few would consider within the ancestral lines of the *genus homo.* Two paragraphs are given in part:

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[43] *Ibid.*, p. 116. The "(6)" refers to Huxley's "On the Position of Man in Nature."

> But in all probability Professor Haeckel is right in believing that this group affords a series of forms connecting the lower apes or lemuroids above them with the monotremes below. This would bring some of the marsupials within the lineage of human ancestry, and before all others, the opossums seem most closely allied to the lemuroid apes.[44]
>
> The embryo opossums show resemblances to lower animals in the general shape of the body, in the early form of the brain, the peculiarities of the lips, the thymus gland, the glandular apparatus of the stomach, the early conditions of the reproductive and urinary organs, and the primitive condition of the mammary glands. Peculiar embryonic resemblances are found in the young of every animal of which the embryology is known, and these facts have no meaning at all to us, unless they mean inheritance and descent.[45]

The critical and the curious may find confirmation of Dr. Barnard's observations as to embryological and morphological similarities in the charts and pages of Romanes' *Darwin and After Darwin* published in 1892.

Four years later amidst his investigations of the insect pests in the cotton fields of the South, and his efforts to perfect mechanical devices for destroying or dispersing the cotton worm he sent the following letter to *Science* that shows his alert and constant interest in man's close connections with other types of animal kind, under the caption, "Movement of the Arms in Walking":

> In *Science,* February 9, Mr. F. W. True recognizes the "movement of the arms in walking" as a functional relic of quadrupedal locomotion; urging thereby a modification of the expression of Professor Dana, sanctioned by Dr. Gill, that "man stands alone among mammals in having the forelimbs not only prehensile, but out of the inferior series, the posterior pair being the *sole* locomotive organs." And the questions are asked, "Have we not at least a ghost of a pre-existing function? Does man walk by means of his feet and legs alone?" Viewing the question from the developmental standpoint, it seems to me that the strongest evidence appears in the first locomotor acts of the child. Before bipedal progression is learned, *the child goes on all fours, and is an actual mammalian quadruped.* At the beginning of this the prehensile power of the fingers is very imperfect. Men have been known to educate their toes to do more than the fingers can at that stage of

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[44] *Popular Science Monthly,* Vol. VIII, p. 152, October, 1875.
[45] *Ibid.,* p. 158.

> functional development. At that time the palms are of more value as soles than for holding things. In the beginning, also, the arms in some children are better legs than are the hind limbs, being more easily used. For example, it is more common for children to creep on the knees than on the elbows; but some learn remarkably early to elevate both knees and elbows, to creep on the soles and the palms. My own boy walked on his soles and palms from the start, and never upon his knees. The speed with which he finally learned to run in this way was remarkable. After learning to move somewhat on his hind legs, when he got in such haste as to make bipedal balancement difficult or uncertain, he would take to all fours, thereby making better speed with less danger of a fall.[46]

Again we may note Dr. Barnard's invariable habit of seeing things in their universal relationships, and not, as the average person does, in isolation and unconnected with anything else. The ambitious lad referred to in the last lines quoted above has been for many years professor of heat-power engineering in Cornell University, his father's alma mater.

Dr. Barnard's views as to man's origin, evolution and relations to the animal kingdom were especially significant in view of his two years' teaching at Oskaloosa College, and Chancellor Carpenter's efforts in 1881 to secure him for Drake University. Academic precincts, no less than religious circles, were then wracked, and anon wrecked, by violent controversies over the Darwinian theories and the Spencerian doctrine of evolution. Was Chancellor Carpenter aware that Dr. Barnard's views were in concurrence with the then advanced scientific theories in biology? We may presume so, for after 1875 Dr. Barnard had been publishing his views in scientific and popular periodicals. We may therefore conclude that Drake's executive was liberal and tolerant on moot questions.

One fact is conspicuous. Neither at Oskaloosa nor at Drake was Dr. Barnard the center of controversy anent his scientific views, and for a very simple and sufficient reason. He was not forward in arrogant assertion, nor ostentatious in belligerency in promoting his biological opinions. He quietly assembled and presented his facts, pointed out their connections and significance. No one would suspect from his narrative that the heavens were split with angry debates over the matters in issue dealt with by him in his articles. He hurled no bolts, no epithets, and indulged in no harsh or contemptuous comments upon those who might dissent from his views.

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[46] *Science* for March 9, 1883, p. 140.

IX

Mention has already been made of Dr. Barnard's invention of a notable labor-saving device, the cyclone nozzle, for spraying his insecticide of kerosene emulsion on the underside of cotton plants. This appreciation of his multiform and multicolored abilities in various lines would be seriously deficient if I did not emphasize his constant alertness in looking for modes of economy not only in physical effort but in the reduction of hindrances to mental effort, or rather of its enhancement. It made no difference where he was, or the things with which he was working. His mind's eye was incessantly alert in discerning ways of saving time and effort, be it when on vacation on his father's farm near Canton, Illinois, or in the cotton fields of the South, or in his laboratory, lecture room or library.

Thus when on his father's farm in 1871 he devised a "method of supporting a portable fence," and in 1878 and 1879 he contrived machines for cutting, for harvesting and for shocking corn, each working on a revolving platform. He applied for patents, but in the case of the first was denied because he had been anticipated; and probably the same reason controlled in the latter mechanisms. He also constructed a "potato bug catcher."[47]

In the course of a discussion of the use of naphthalin as an insecticide before the Biological Society of Washington (December 14, 1883), a contemporary report published at Cambridge, Massachusetts, gives us an interesting account of Dr. Barnard's practical bent:

> Dr. W. S. Barnard said that naphthalin might prove valuable as an insecticide, if made cheap enough and so applied as not to injure the plants. He had devised a method and apparatus by which those insecticides which are dangerous to plants, such as kerosene, cyanide of potassium and bisulphide of carbon might be used so as to be safe for the plants and destructive to insects in the ground. These substances have usually been applied on the surface of the ground or buried shallowly, either among the roots or above them, but when brought in contact with the roots, in strength, they kill them. When applied in the volatile form they are not so injurious. Naphthalin and kerosene especially

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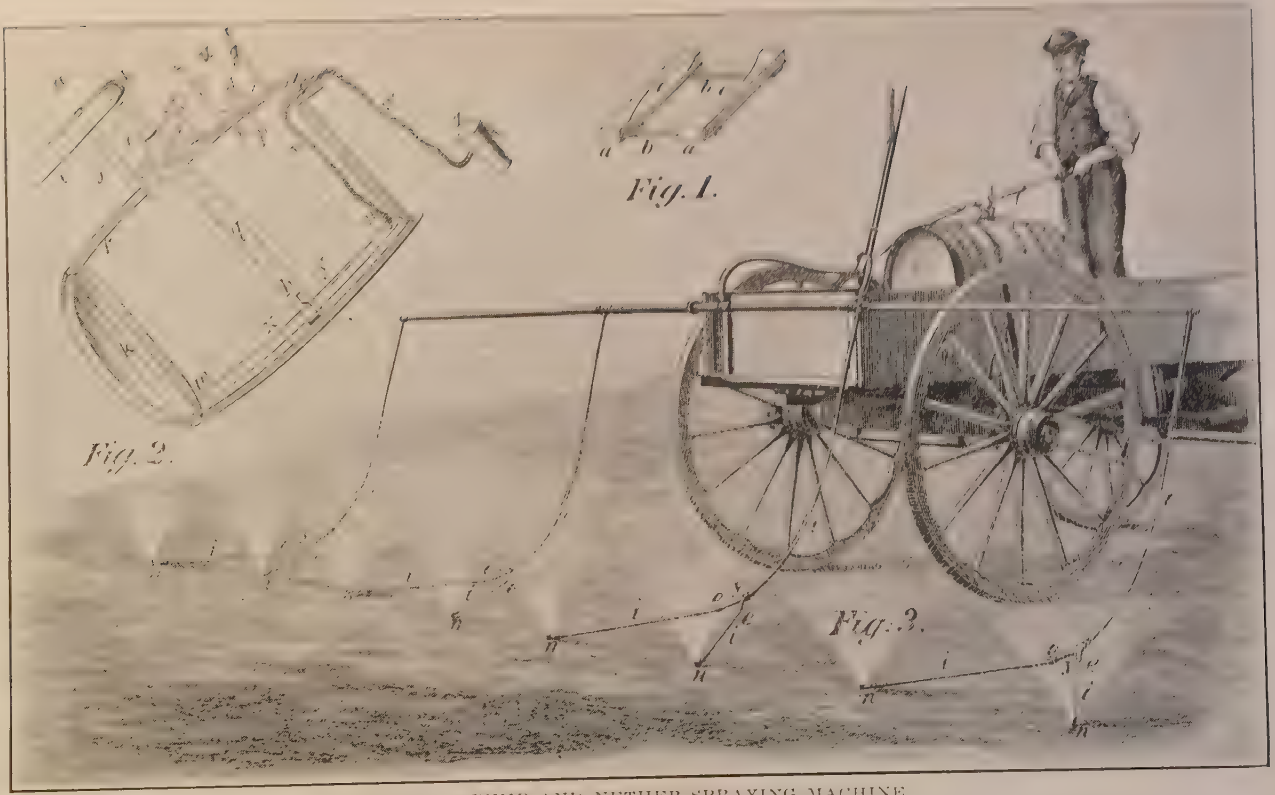
[47] Professor W. N. Barnard and Mr. Charles H. Barnard to F. I. Herriott, (MS) letters.



STIRRER-PUMP AND NETHER-SPRAYING MACHINE

Fig. 1. Barrel rest or skid; cleats, bb; side rests, aa; chamfer, cc.

Fig. 2. Stirrer-pump with barrel and mixer funnel in section; funnel, u; its cylindrical sides, gg; funnel base, tt; spout, p (in bung hole, k); gauze septum, d; barrel, kk; trunnions, i; trunnion-eyes, e; wedges, vv; lever fulcrum, f; pump-lever, ii; swing of the lever-head and piston top, abc; packing-cap, c; cylinder, g; its swing, x; spout, s; strainer loop or eye, h; stirrer bar, mn; rope, ww; bungs, rz.

Fig. 3. Wagon or cart machine for spraying from below with stirrer-pump all in operation; suspension pipes, t; Y forks, y; flexile, at e; nozzles and sprays, n.

should be placed deep below the roots. The apparatus, which Dr. Barnard names a "nether-insector," consists of a tube which is made to fit closely around a central solid shaft somewhat longer than the tube and pointed at its lower end. The tube may have an internal diameter of 15 mm. and the shaft a diameter of 12 mm. The upper end of the tube expands like a bowl. The upper portion of the shaft is weighted with a heavy ball so disposed that the shaft can be grasped above the ball. By withdrawing this shaft partially from the tube and then returning it with force, as the lower end of the tube rests on the ground, both tube and shaft can be driven into the ground to any required depth. The shaft is then wholly withdrawn and the insecticide poured into the tube, by which means it is placed beneath the roots without coming in contact with them. The tube is then withdrawn, and the hole made by it is filled with earth. The insecticide, being volatile, rises through the ground and becomes diffused. With this method of application kerosene is probably superior to naphthalin.[48]

It would be interesting, if space permitted, to point out the interesting phases of the fifty-six plates which Dr. Howard informs me,[49] Dr. Barnard prepared himself or personally supervised the drafting, showing the various species of nozzles and sprays, atomizers, blowers, deflectors, hydronettes, hand pump and fountain sprayers, and various machines for nether spraying. And if one were to examine with discrimination the 230 pages of technical description and acute discussion of the various types of machines and devices for the destruction of the cotton worm in his final report to the United States Entomological Commission in 1884, he would have no doubts about his intimate knowledge of, or fondness for, mechanical contrivances.[50] His interest therein, however, please note, was all incidental to the destruction of insect pests in one of the great industries of the country.

We shall see that he hit upon a scheme for "note-taking" in class work and lectures for his students at Drake that anticipated the common practice of these days. In 1877 he applied for a patent for book supports or book ends. He is credited with devising "the Harvard Book Rack,"[51] and just before his death he had perfected a letter file, or box file for holding and making serviceable collections of letters, his widow making the application for patent rights after his death. The sketches accompanying the application display the type of filing case very commonly used in the past forty years.[32]

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[48] *Psyche*, for January-February, 1884, pp. 133-34.

[49] Dr. Howard, *op. cit.*

[50] See *Fourth Report of U. S. Entomological Commission*, Chapters XI-XII, pp. 191-321, and the 61 plates accompanying Dr. Barnard's report, reprinted in the author's edition.

[51] Appleton's *Cyclopaedia of American Biography*, Vol. I, p. 170.

Among the miscellaneous papers left by Dr. Barnard are two rough sketches of serviceable devices for use in a chemical laboratory. One was a holder for a test tube or a pipette. It was simple in the extreme, consisting of a single wire, one portion of which bent at a right angle, was run down a wall catch serving as a hinge, then run out, twisted, the size of the tube to be held, thence to the hinge and back again with another twist. The other was a gasoline heater. This consisted of a one or two-inch iron tube two or more feet long filled with sand. The gasoline or kerosene would be fed into one end and lighted at the other.

Part and parcel of Dr. Barnard's genius in the way of inventiveness was his marked ability in drawing. In his *Notes* of his experiences in the Morgan Expedition to Brazil in 1870, scattered here and there are many pen or pencil sketches of plants and animals. Most of them are rough, merely in outline, but they display keenness of observation and an accurate sense of perspective and proportion. Many of his pictures or sketches of plants or shrubs show exceptional effectiveness in delineation of delicate shadings, lines or filaments. It was his ability in rapid sketching that made his lectures, especially in the use of blackboard demonstrations, so effective.

X

Dr. Barnard's ideas on the true principles and correct practice of effective education attracted attention at Cornell and elsewhere early in his career, for he was asked to give the address before the University Convocation at Albany on July 13, 1880. There was so much pith and point in it that it was printed in *Popular Science Monthly* for September under the title, "Zoological Education." His opening sentences indicate his philosophy and procedure:

> It is the office of education to direct the mental growth of the individual, and this should be by developing and not by a cramming process. In our present system there is too much burdening of the verbal memory, and too little of what may be called the objective memory, resulting from the exercise of the mind upon actual objects. What we want is more of observation, more inductive reasoning, judgment and under-

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[32] Letters Patent, No. 384,801, dated June 19, 1888.

standing -in short, intelligent thinking; but how little do we find of this in the prevalent method of education in institutions of all grades.

Ordinary courses of study do not include subjects upon which these mental faculties can be sufficiently employed. They consist too much in learning rules pertaining to language and mathematics and then deductive applications, and too little in the objective investigation of things, the making of generalization and the investigation of laws. School facts and deductive sciences are means instrumental to business success; but they are not in themselves sufficient to carry on the work of mental development. But even where natural science is taught in public schools, it is generally for a short time, late in the course, and by the old method of memorizing or parroting from books instead of making it a constant study of concrete objects, to which some time should be devoted on two or more days of each week throughout the student's whole career. This learning of nature from books alone is an impossibility, a deception, and a fraud, like the teacher's "can't for want of time and specimens" when the crops are suffering from insects which swarm everywhere, and the chief amusements of the boys are to go hunting and fishing.

. . . . .

Teachers should utilize what they can obtain by the help of students. This is dangerous for the unfitted teacher.[53]

Dr. Barnard's ideas anent the methods of effective instruction in the natural or physical sciences are mere commonplaces today. But when he penned those lines they were very heterodox, not to say radical in the extreme. Herbert Spencer, Thomas Henry Huxley and John Tyndall had assailed the traditional cast-iron collegiate curriculum, which for the most part ignored the physical sciences, and insisted on confining attention chiefly to Latin, Greek and mathematics with some consideration for the "humanities," somewhat narrowly interpreted to comprehend only ancient and mediaeval philosophy, logic and a few forays in literature and political economy. But the critics both in England and the United States were not numerous and Dr. Barnard was thus in the vanguard of those who have since made the notable revolution in the instruction in the concrete sciences—the most conspicuous fact in educational circles in the last half century.

One may have correct ideas and high ideals and true theories of what constitutes mental cultivation and real education and fail sadly when he undertakes to put them into practice. He may suffer from a plentiful lack of that incomprehensible but much needed power or quality called "personality" which constitutes the *sine qua non* in successful instruction.

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[53] *Popular Science Monthly*, Vol. XVII, p. 666, October, 1880.

Answering my inquiry about his work in the Bureau of Entomology, the secretary of agriculture, Hon. Henry C. Wallace, after summarizing his work, wrote of Dr. Barnard: "He was much liked by his colleagues, but was not very communicative."[54] One of his colleagues and admirers in the bureau who deemed him an excellent investigator doubted if he was a "very successful teacher,"[55] because he was so quiet and undemonstrative outside of his laboratory and away from his special studies. In the jargon of these latter days Dr. Barnard was neither a "mixer," nor a "socialite," nor a devotee of the goddess, "Publicity."

Dr. Simon H. Gage, professor emeritus of histology and embryology, was an associate of Dr. Barnard in the instructional staff of Cornell University, and retains some vivid memories of the young scientist from Canton, Illinois. He writes:

> While it was after my own graduation (1877) I . . . . attended Dr. Barnard's lectures on Protozoa, and as he worked in the laboratory common to us all, students, assistants and professors, I saw much of him and was certainly an admirer of his tireless industry, and the extent of his knowledge.
>
> He was very ingenious in devising apparatus to meet various needs. During his professorship here [Cornell] he was greatly interested in methods of spraying . . . . which we of the younger generation enjoyed seeing work. . . . . Dr. Barnard was very tall and slender and had a keen sense of the ridiculous. . . . . Dr. Barnard was . . . . a right human kind of individual.[56]

Dr. Barnard had a complex of essentials for a successful teacher. First, he had a clear and comprehensive knowledge of his subject in its vast reaches and in its minutia. Second, he had a command of lucid speech in exposition, and his many and varied studies in Europe, South America, and in the United States enabled him to speak with a certainty, a variety of illustration and a vividness that compelled attention, allured interest and aroused youthful enthusiasm and energetic desire to know more of his fascinating subjects. Third, he displayed an inventive genius in the way of practical suggestions and devices for labor-saving in study and ordinary work that greatly enhanced his students' love for his particular course of study or research. The memories of his students are still vivid, and from them we must conclude that his lectures and class procedure were never dull or wearisome. He made the formula of chemistry and the phenomena of life, its animalcule and all microorganisms scintillate with a radiance which made them alive with significance in daily life.

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[54] Hon. Henry C. Wallace to F. I. Herriott, (MS) letter dated at Washington, D. C., May 23, 1923.

[55] Howard, *op. cit.*

[56] Professor Simon H. Gage to F. I. Herriott, (MS) letter dated at Ithaca, New York, April 2, 1935.

It was true that outside of his classes and laboratory he was reserved if not reticent and undemonstrative—not an uncommon trait of serious students of nature—but when approached by colleagues or students, and those with earnest inquiries, he was congenial, and acquaintance easily attracted and held good will and developed admiration. It is clear that on coming to Drake he demonstrated at once that he was not only a scientist in the strictest sense of the term but a teacher *par excellence*, as well.

Prior to the eighties in western colleges and universities instruction in natural history, as the manuals of chemistry, physics, and zoology were generally labeled, was largely by mastery of "the book," the students having little experience or discipline in a laboratory or field. Dr. Barnard was a realist first and last. He put his theories of education into daily practice. At the outset he asked his students to bring into class specimens of animals or grains, plants or shrubs, and to describe and differentiate them, and to study them in their functions and structures, in their environment and heredity and relations with competing species; and in sundry ways to get in touch with nature at first hand and on the ground. Memories of the novelty of such procedure still remain green in the minds of his students.

One of the innovations which he inaugurated in his class work and laboratory lectures was a method of note-taking which all of his students recall foremost among their recollections. One who attended one of his extra class on Saturday, Mr. Edgar R. Harlan, Curator since 1909 of the State Historical Department of Iowa, gives the following description of his practice:

> . . . . But Professor Barnard proceeded at once to let us into the arts of taxidermy and note-taking. I think it was the very first meeting in which he showed us that in achieving anything worth while it was not to be merely by memory, but by recording on a standard card, of which he gave us specimens from his own stock. They were about three inches wide and five inches long. He had us each write at the top of

the card "Taxidermy Card, No. 1" with name and date. Having done that he cautioned us not to write anything on the cards that would occur at that first class meeting, saying that he would enter on his own card and at the next meeting would have each of us know what he had written, discuss what was worth while and what valueless, then enter upon our own cards, under the new date, the subject and statement appropriate, which was agreed upon through his placing on a blackboard the language that should become an identical line on each of our cards. I remember that he altered a word or more of the line, due to the queries submitted by the bolder members of the class. The alteration, however, took place only after his eliciting the reasons for change in every case and from everyone who had suggested change until, without realizing it, his mind and our own minds reached the exact word or phrase to be made the permanent record for the day.

There were but two or three meetings previous to his asking whether any of us could bring to the class a specimen of small mammal or destructive bird, to be used as the first in the course on the next Saturday. . . . . I remember also Professor Barnard's serious and gentle inquiry of the class, whether there was any variation from other quadrupeds which a rat possessed which would make it an impractical or an impossible subject for experiment. In the same or a continued discussion the class, without the specimen, developed a fair description, and the discussion led into the identity and characteristic names of every rodent any of us knew, the reason for the name rodent and the differences in the tracks they made, the character and color of the hair, or fur, and the like. There was delegated to each who manifested particular interest, the task of bringing to the class, sooner or later, a specimen.

. . . . so the next meeting resulted in ample specimens, upon which Professor Barnard complimented us and continued the instruction by way of notations on our respective cards of other entries indicated by our several experiences.[57]

XI

A colleague, Professor Bruce E. Shepperd, who was foremost in beneficial influence in Drake's faculty for thirty years, appraised Dr. Barnard and his influence:

Dr. Barnard, in my estimation, is the first thoroughgoing scholar to come to Drake. He was always easy to meet and friendly, but one felt that a true scholarship was there. His attitude toward the new when it came up was characteristic of the painstaking investigation. He was not greatly given to the taking on of any matters outside his own particular line. Association with him meant much for my own upbuilding.[58]

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[57] Edgar R. Harlan to F. I. Herriott, (MS) letter dated at the Historical Department of Iowa, Des Moines, May 8, 1935.

Mr. M. A. Olmsted of Des Moines was a member of Dr. Barnard's classes and he has loaned me his chemistry notes taken under Dr. Barnard's directions. They are recorded on light-buff colored cards of the size described by Mr. Harlan. Professor Barnard anticipated the modern card system now so generally used by students and research workers who wish to keep their findings in readily accessible form to enable rapid finding.

Mr. Maurice Ricker of the Drake class of 1892 and for many years now intimately associated with technical work of the motion picture industry, and one of the founders and engineers of the laboratory of United Research Corporation of Long Island City, a subsidiary of the Warner Bros. Company, thus summarizes his recollections of Dr. Barnard:

> Professor Barnard was the first real man of science I ever knew. Afterwards there were notable men, all of whom made a deep impression on me—Bruner, Davis, Call[59] in natural and physical sciences as we then called them. In the exact sciences of mathematics and astronomy Professor Shepperd stands out above all others as the man who did more for me than any teacher I ever had.
>
> I was not assigned to any class under Professor Barnard as he died before I progressed that far. However, we enjoyed a privilege in those days long since extinct at Drake, namely, those of us who lived at a distance were allowed to study in the building between classes. Since no supervised study rooms were available, we "sat in" wherever we could and, country school like, we profited by the recitations of our elders.
>
> It was thus as a not unwelcome interloper that I gathered my earliest impressions of the natural sciences. There for the first time I saw strange animals dredged from the sea and preserved in bottles. Naturally I searched the books for descriptions of these strange forms and haunted the classroom after the pupils had gone.
>
> Professor Barnard was a good teacher. . . . . My most vivid recollection of his classwork was when he was teaching a class in drawing. The subject was perspective. On the blackboard he developed with what seemed marvelous speed and dexterity a scene of a railway track, crossties, and even the fence and telegraph poles. He taught it so well that to this day I never look into a picture that I do not try to fix the "vanishing point." He had a certain touch and lively enthusiasm for his classwork that must have been genuine. It was rumored that he was a government scientist and had been associated with the Smithsonian Institution. This was probably the first time I had ever heard of such a place.[60]

The impressions which an instructor makes upon a class of students are multicolored and unpredictable. One will note his eccentricities and mannerisms. Another will be impressed by his learning or "lack" of it. Another will be struck by his balance and fairness of judgment, or by his extreme views and radicalism. Others will be struck by his temperament, his humanness and affability. The following from the pen of Mr. D. W. Witmer, a busy lawyer in Kansas City, records some interesting and abiding memories:

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[58] Professor Bruce E. Shepperd to F. I. Herriott, (MS) letter dated at Donna, Texas, March 14, 1926.

[59] The Messrs. Bruner, Davis and Call referred to by Mr. Ricker were Professor H. L. Bruner now of Butler University, Indianapolis, Indiana; Professor Floyd Davis, Dr. Barnard's successor at Drake; and R. Ellsworth Call, from 1898 to his death, was curator of the Museum of the Brooklyn Institute of Arts and Sciences (*Who's Who in America* for 1905-7).

[60] Maurice Ricker to F. I. Herriott, (MS) letter dated at Long Island City, New York, March 22, 1935. One encounters in the contemporary letters and press the assertion that Dr. Barnard was connected with the staff of the Smithsonian Institution. It is without basis.

> My vivid recollections of Professor W. S. Barnard are his quick, accurate manner and method of preparing and outlining his lectures on the blackboard. . . . From these outlines you were expected to record and report the next day on your findings.
>
> Professor Barnard never seemed to sleep, thus he burned out a bright light at an early age.
>
> He instilled confidence into his pupils so that they could meet the banker, the corporation manager, the president, the speaker of the house . . . with the same ease as you would meet the merchant, the tiller of the soil, or his hired laborer.
>
> This courage came in good for me once when, single-handed and alone, I faced a battery of six able lawyers. . . . For this *courage* I give great credit to Professor Barnard, for *he* never quit.[61]

Significant evidence of Professor Barnard's widespread fair fame among scientific men in the country at large was given the public in the forepart of 1887. Then the first volume of Appleton's *Cyclopaedia of National Biography* was published, the first notable undertaking of the kind on this side of the Atlantic. It contained an effective sketch or summary of his career and scientific work.

XII

In the forepart of October, 1887, it was noticed that Professor Barnard was not in the best of health. Indeed it was obvious that he was far from well. Two accounts have been current regarding the developments that soon proved fatal.

One is that personal memoranda among his effects disclose that he was suffering from diabetes. That dread disease insidiously but steadily grew worse. His zeal for his work, or his heedlessness or indifference permitted it to become irremediable.

The other tradition is that he was afflicted with a slight "cold," sometime in November. He paid no special attention to it; said nothing about it, and attended his classes, pushing his work as vigorously as usual. His condition became slowly but steadily worse. He did not apparently deem it serious or menacing, and did not or would not, summon a physician. Suddenly it was realized that he was in the grip of advanced pneumonia. Medical aid was invoked but, alas, too late.

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[61] D. W. Witmer to F. I. Herriott, (MS) letter dated at Kansas City, Missouri, November 11, 1935.

Dr. Barnard died a few minutes past midnight on the morning of Sunday, November 13, 1887, in his home at 1139 Twenty-second Street, Des Moines, at the age of thirty-nine years.

Besides his widow there survived Dr. Barnard one son, William Nichols Barnard, who has been since 1906, professor of heat-power engineering in the College of Engineering in Cornell University. Mrs. Barnard died at her son's home in Ithaca, May 8, 1915.

The announcement of Dr. Barnard's death was a shock to colleagues and students, and the expressions of their sense of loss were instant and generous. Professor Norman Dunshee voiced the feelings of the faculty in resolutions adopted, one paragraph reading:

> . . . . we found in him a faithful and efficient teacher; one of the most eminent scientists of our nation; a faultless coworker in all that was pure and good; one who loved truth for its own sake; a patient and ardent student; a true gentleman of pure heart and upright life; one whose noble character is a legacy bequeathed not only to his family but to us.[62]

A committee of students, consisting of Messrs. F. A. Morgan, John E. Northrup and Edward S. Ames, each among the leaders of the classmen, formulated the sentiments of the undergraduates. The first mentioned probably penned the following editorial in the *Delphic*, the student publication, in the issue for November:

> Dr. Barnard came to Drake University in September, 1886. He found the department to which he had been elected poorly equipped in everything save a large number of eager students bent upon the acquisition of knowledge in biology and physical science. This the professor was able and willing to impart, and did so with such clearness and precision that he at once enlisted the zeal and interest of every student in his department. His ability was not only in giving instruction, but also in creating a desire for private investigation and original research. This is the true genius of the teacher. Not in how much he can do for the student, but in what he gets the student to do for himself. All were learning to follow his zeal, thoroughness and untiring energy. Systematic in all things and careless in none, he early taught the student the

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[62] *The Delphic* for November, 1887, p. 19.

best plan of work, which gave the desire for its thorough and careful accomplishment. A man of great modesty, he was most admired and appreciated by those who knew him best.[63]

Those sentiments were not in the usual terms of funereal, eulogistic laudation, uttered *pro forma*. They expressed the feelings of a genuine admirer who spoke the common opinion of those who had enjoyed intimate acquaintance and daily contact with their instructor. A month later another entry in the *Delphic* reads: "We feel more deeply each day the loss of our 'model teacher and friend.' "[64]

The feelings of the community at large were clearly indicated in the headlines of the announcement, in *The Iowa State Register,* of Dr. Barnard's death, in its issue of Tuesday morning, November 15, 1887:

DEATH OF AN ABLE TEACHER

Career of Brilliant Young Scientist—A
Man of Broad Learning and an
Original Thinker

A Good Man Gone

PUBLICATIONS OF WILLIAM STEBBINS BARNARD

"Beitrage zur Myologie des Simia saturys (Oranguten) besonders über die Morphologie der Beinmusculatur." (MS) Doctorial dissertation submitted to faculty of the University of Jena on February 15, 1873, and deposited in the library of the University.

"Observations on the Membral Musculation of *Simia satyrus* (Orang) and the Comparative Myology of Man and the Apes."—*Proceedings of the American Association for the Advancement of Science* for August, 1875, pp. 112-44. (2 plates.)

"Observations on the Development of Didelphys Virginiana (the opossum)." *Ibid.*, pp. 145-47, an abstract. (4 plates.)

"Protozoan Studies," an abstract. *Ibid.*, pp. 240-42.

"Opossums and Their Young."—*Popular Science Monthly,* December, 1875, Vol. VIII, pp. 149-58.

Catalogue of the Invertibrates (excepting insects) in Ward's Natural Science Establishment, octova, p. 96, Rochester, New York, 1876. (8 plates.)

"New Rhizopods."—*American Quarterly Microscopic Journal,* January, 1879, Vol. I, No. 2, pp. 83-85. (1 plate.)

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[63] *Ibid.*, p. 23. The character of the committee may be inferred from the careers of Messrs. Ames and Northrup. Dr. Ames has been head of the Department of Philosophy in the University of Chicago and Mr. Northrup has been a prominent lawyer of Chicago. See *Who's Who in America.*

[64] *Ibid.* for December, p. 50.

"Some Interesting Insect Habits."—*Proceedings of the American Association for the Advancement of Science,* Vol. XXVIII, pp. 472-78, 1879.

"The Bud-blight Insect."—*Ibid.,* pp. 478-86.

"Microorganisms and Their Effects in Nature."—*Popular Science Monthly,* October, 1879, Vol. XV, pp. 764-72.

"Zoological Education." Read before the University Convocation, Albany, New York, July 13, 1879. Printed in the *Report of the Regents of the University of the State of New York,* 1879, pp. 529-32; also *Popular Science Monthly* for September, 1880, Vol. XVII, pp. 666-69.

"Buccalatrix Cocoons."—*The American Entomologist,* March, 1880, Vol. III, New Series Vol. I, p. 76.

European Tussock Moth."—*Ibid.,* p. 77.

"Protoplasmic Dynamics."—*The American Naturalist,* April, 1880, Vol. XIV, pp. 233-42. (5 plates.)

"The Army Worm."—*New York Journal,* Ithaca, July 8, 1880.

"Memert."—*The American Entomologist,* August, 1880, Vol. III, New Series, Vol. I, p. 199.

"Parisitic Rove Beetle. *Aleochara anthomyiae."—Ibid.,* pp. 199-200.

"Entomological Legislation."—*Amer. Ent., op. cit.,* September, 1880, p. 222.

"Dominican Case Bearer."—*Amer. Ent. Ibid.,* p. 227. Illus.

"Parthenogenesis in Orgyia antiqua."—Ibid., p. 227.

"The Cotton Worm."—*Our Continent,* March 22, 1882.

"Insecticides."—*Indiana Farmer,* December 9, 1882.

"Some Results by Massage et Contre-Coup." Abstract of communication to the Biological Society of Washington, D. C., December 28, 1883.—*Proceedings of the Biological Society of Washington, D. C.,* Vol. II, 1882-1884, pp. 116-17.

"Use of Naphthalin and of Nether-insertor." Summary of observations made before the Biological Society of Washington, D. C., in *Psyche,* January-February, 1884, p. 134.

"Test of Machinery for Destroying the Cotton Worm."—*Bulletin No. 3,* Division of Entomology, U. S. Department of Agriculture, December 8, 1883, pp. 39-48.

"Machinery and Devices for the Destruction of the Cotton Worm."—*Fourth Report of the U. S. Entomological Commission,* 1885 (February 3, 1886), pp. 191-321.

MEMORANDUM

"Hundreds of accurate and beautiful drawings and diagrams, with notes and manuscripts equivalent to several large volumes, bear witness to his scientific spirit and industry, and indicate what he might have put in shape for publication but for imperfect health and an almost too faithful devotion to his duties as a teacher."

The Memorandum just given was prepared under date of January 30, 1888, by Professor B. G. Wilder of the Department of Biology of Cornell University, Ithaca, and printed in the December issue of *Scientific News,* p. 1137.

WILLIAM DUANE WILSON
Member of and Secretary of the first Board of Trustees of the Iowa State Agricultural College and Farm.

WILLIAM DUANE WILSON

By David C. Mott

William Duane Wilson was born in Philadelphia, Pennsylvania, September 21, 1809, and died in Des Moines, Iowa, January 7, 1877. Burial was in Woodland Cemetery, Des Moines. His parents were James and Anne (Adams) Wilson,[1] both of whom emigrated from County Down in Northern Ireland to Philadelphia in 1807.

As soon as James Wilson reached Philadelphia he obtained employment in the printing office of William Duane, editor and publisher of the *Aurora,* a daily paper and the leading political organ of President Jefferson and his party. James Wilson, then only twenty years old, proved to be an apt student and a faithful employe, and prospered. A year later he married Anne Adams, who came over on the same ship he did. A strong friendship grew up between employer and employe, so when the young Mr. and Mrs. Wilson's first child was born they named it William Duane Wilson.

Mr. Duane was a busy man and Mr. Wilson was more and more intrusted with responsibilities. When the War of 1812 broke out Mr. Duane was made adjutant general of the Eastern District of Pennsylvania, and Mr. Wilson was given management of the *Aurora.*[2]

In 1814 James Wilson removed to Steubenville, Ohio, and purchased the *Steubenville Herald* which he and his sons successfully conducted many years.[3] Mr. Wilson became a prominent and useful citizen of Steubenville. He was justice of the peace and came to be called Judge Wilson. He was a vigorous and successful newspaper man. He founded a paper at Pittsburg, the *Pennsylvania Advocate,* in 1832, and divided his time somewhat between Steubenville and Pittsburg. James Wilson had seven sons and taught every one of them in his own office to be an expert printer. It was by their help that he conducted the two papers, but after the *Advocate* was fairly on its feet he left it in the immediate charge of his eldest son, William Duane Wilson, then about twenty-three years old.[4]

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[1] MS letter written from Bay City, Michigan, November 6, 1914, by Mrs. Susan Wilson Snyder to George G. Wright, of Des Moines, and now in possession of the Historical, Memorial and Art Department of Iowa.

[2] *The World's Work,* October, 1911, pp. 14940-43.

[3] *History of the Upper Ohio Valley,* 1890, Vol. II, p. 434.

The youngest brother of William Duane Wilson was Joseph Ruggles Wilson. He was born at Steubenville in 1822. Like the other boys of the family he learned to "stick type," but did not stay long in that vocation but became the scholar of the family, took a liberal arts course, then a theological course and was licensed to preach by the Presbyterian church. Soon thereafter, in 1849, he married Janet Woodrow. To these two young people, on December 26, 1856, was born Thomas Woodrow Wilson, known to fame a little more than half a century later as President Woodrow Wilson.[5]

William Duane Wilson, who at six years old climbed up on a stool in his father's office at Steubenville and began learning to set type,[6] had advanced through every part of knowledge of the craftsmanship of a printing office, at sixteen he frequently had charge of the paper, and at twenty-three was conducting the *Advocate* at Pittsburg. He obtained a financial interest in the paper, but sold it in 1839 and it was afterward merged with the *Pittsburg Gazette*.[7] He then removed to Wheeling, Virginia, and became publisher of the *Wheeling Intelligencer*.[8]

In 1841 he was appointed general superintendent of lights on northwestern lakes with headquarters at Buffalo, but later, to better discharge the duties of his office, removed to Detroit where he remained until the office was abolished. It was because of holding this position that Mr. Wilson acquired the title of "General," which distinction was quite commonly conferred on him by the public, especially in the later years of his life. He then secured an interest in the *Detroit Daily Advertiser*, which he disposed of in 1845, went to Milwaukee and joined Hon. Rufus King in the publication of the *Milwaukee Sentinel and Gazette*.[9]

Mr. Wilson was living in a time of rapid changes in the frontier West, a period of building, development, and rapid progress, and he was in the van of the movement. From the *Miners' Express,* Dubuque, in its issue of May 3, 1848, we find this concerning him:

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[4] *The World's Work*, op. cit., p. 14943.

[5] *Ibid.*, pp. 14944-47.

[6] L. F. Andrews in *Register and Leader*, Des Moines, June 13, 1909, Third [illegible] 2.

[7] *History of Allegheny County, Pa.*, Warner & Co., Chicago, 1889, Vol. I, [illegible]

[8] Andrews, *op. cit.*

[9] *Ibid.*

> Some little excitement prevailed in town yesterday among our telegraphic stockholders. The reason is that William Duane Wilson, a reputed agent for the Morse patentees, arrived in town with a quantity of circulars, pamphlets, &c, warning the people against being duped by the agents of O'Reilley. Mr. Wilson affirms that O'Reilley is entirely destitute of any legal authority which would justify him in entering into contracts for constructing telegraphic lines. This we are led to doubt. . . . .[10]

From 1850 to 1852 Mr. Wilson was connected with the Census Bureau, Washington, D. C. In 1852 he joined with a syndicate of Whig politicians that acquired the *Chicago Tribune* which then had a circulation of 1,100 copies. Mr. Wilson was the leading political and editorial writer, while Thomas A. Stewart had charge of the news columns. In March, 1853, Mr. Wilson retired from the paper, his interest passing to Henry Fowler, Timothy Wright and Joseph D. Webster, and Mr. Stewart became the editor.[11] While on the Tribune he organized the merchants into what later became the Merchants' Exchange. Later he started the *Courant,* a daily penny paper, which developed eventually into the *Chicago Times.* In 1855 he removed to Burlington, Iowa, and became editor of the *Iowa Farmer and Horticulturist.* This was the first agricultural paper published in Iowa. James W. Grimes and J. F. Tallant were the editors and Morgan, M'Kenny & Co. were the publishers. Its first number shows the date of May, 1853. It contained 16 pages, 6x9 inches, double column, and was published monthly.[12] By September, 1853, they increased the issue to twenty-four pages. In February, 1854, the two editors divided their work, Mr. Grimes being designated as agricultural editor, and Mr. Tallant horticultural editor. In the fall of 1854 Mr. Grimes was elected governor of Iowa and was inaugurated December 9. About that time Milton L. Comstock succeeded Mr. Grimes as agricultural editor of the *Iowa Farmer.*

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[10] Dubuque *Miners' Express,* May 3, 1848. In the Newspaper Division of the Historical, Memorial and Art Department of Iowa.

[11] The *National Cyclopedia of American Biography,* Vol. VII, p. 558. James T. White & Co., New York, 1897.

[12] See files of the *Iowa Farmer and Horticulturist* in the Historical, Memorial and Art Department of Iowa.

It was sometime during the summer of 1855 that William Duane Wilson joined with Mr. Comstock as one of the publishers of the paper, and assumed the position of agricultural editor. Soon thereafter the paper began to acquire more advertising, and was somewhat enlarged. Concerning it the *Democratic Mirror,* published at Vernon, Van Buren County, has this to say of it:

> We have received *The Iowa Farmer* for January, 1856, published in Burlington, Iowa, by William Duane Wilson and M. L. Comstock. Terms, 1 copy 1 year, $1.00 in advance; 5 copies to one address, $4.00; 15 copies to one address, $10.00. We recommend it to every farmer in the West. If they would all take the *Iowa Farmer* it would save publishers of newspapers much trouble, and greatly benefit themselves.[13]

The March, 1856, number of the *Iowa Farmer and Horticulturist* indicates its place of publication to be Burlington and Fairfield, with Mr. Wilson's address given as Fairfield and Mr. Comstock's as Burlington, and the direction is given to direct business letters to Fairfield and letters on other matters to either place. The number carries more good contributions on agricultural subjects than had previously appeared. Improvements in the make-up appear, also interesting illustrations of livestock, fences, agricultural machinery, and so forth.

In the May, 1856, issue there is a call for a meeting for June 4 at Muscatine of the Board of Control of the State Agricultural Society. The call is signed by William Duane Wilson, Corresponding Secretary. A list of the members of the board is given —one from each of twenty-four counties.

The June, 1856, number has thirty-two pages. An editorial advocates a seed exchange in Iowa, rather than to have to depend on getting seed from eastern dealers, and urges those favoring the plan to address their letters to "Iowa Seed Exchange, Burlington, Iowa."

A very important article of more than a page entitled "Plan of an Agricultural School," is in this number, apparently written by Mr. Wilson. Its introductory paragraph follows: "An Agricultural School worthy of the name is one of the most evident and pressing needs of the country. We are to a great extent a nation of agriculturists, yet without an institution in the whole length and breadth of the land which furnishes the proper instruction to the agricultural community." The article then proceeds to set out a plan including a well-stocked and well-furnished farm with experimental facilities, and the means of instruction in all the sciences connected with the culture of the soil. The plan is elaborated and the needs emphasized.

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[13] *Democratic Mirror,* Vernon, Iowa, January 11, 1856. In the Newspaper Division of the Historical, Memorial and Art Department of Iowa.

In the July, 1856, number it is stated, "We are compelled, for the present at least, to print *The Farmer* at Burlington, in consequence of the greater facilities for printing. Our edition has become so large (thanks to our friends) that the ordinary mode of printing on a hand press is altogether insufficient for our purposes—hence we have to resort to the machine or power press of the *Hawk-Eye* in this place." However Mr. Wilson does not remove his family from "that beautiful town of Fairfield."

An article appears concerning the next state fair, which was to be held at Muscatine. Mr. Wilson appears to have been busy with its arrangements. He also reports about different counties over which he traveled, evidently in the interests of his paper.

Mr. Suel Foster of Muscatine writing an article for the August, 1856, issue comments on the article in the June number on a plan for an agricultural school, and says he sees this year several states are moving simultaneously toward that end, and suggests they make plans for such a model farm and a school and ask the Iowa legislature to create such an institution.

The proceedings of the State Educational Convention appears in this issue. It was held at Iowa City June 16, 17 and 18. Mr. Wilson made an address urging the principles of agricultural science should be taught in Iowa schools. He was elected second vice president of the association.

Mr. O. H. Harris, a practical and experienced agricultural editor, was secured, so it is stated, to aid Mr. Wilson, so he could have time to visit other portions of the state.

The September, 1856, issue contains the premium list of the State Fair which is to be held at Muscatine October 8, 9 and 10, also the names of the officers, directors and members of the board, etc. Mr. Wilson was corresponding secretary.

In the December issue, 1856, the announcement is made that hereafter *The Iowa Farmer* will be published semi-monthly, in order to keep up with the rapidly moving business. The size will be as a rule only sixteen pages.

The January, 1857, number shows the place of publication to be Mount Pleasant, Iowa. The reason for removal to that city was not given.

During the latter part of July, 1857, Mr. Wilson, leaving his editorial chair temporarily to Dr. S. Stebbins of Mount Pleasant, went to Syracuse, New York, where he spent ten days attending the National Exhibition of Agricultural Implements. He served with several other nationally known agricultural leaders as jurors in a competitive trial between different makes of reapers and mowers. Mr. Wilson also attended the United States Fair which was held at Louisville, Kentucky, the first week in September, 1857. It was managed by the United States Agricultural Society.[14]

In January, 1855, the Fifth General Assembly passed an act providing for locating the capital of Iowa within two miles of the Raccoon Fork of the Des Moines River. By the fall of 1857 a suitable capitol building having been erected the offices were transferred from Iowa City to Des Moines[15] and the Seventh General Assembly convened there in January, 1858. Mr. Wilson had visited Des Moines the summer of 1856 and had said in the columns of his paper that he thought it was "destined to be the largest inland city of Iowa." Writing further of it he said:

> Where it begins or where it ends, or rather what is to be its ultimate boundaries, is more than we could fully satisfy ourself or obtain satisfactory information of from those who think they have the lines in their hands. Suffice it in that regard when we say that its present dimensions are fully up to the most sanguine anticipations of us outsiders as being amply sufficient, when properly filled up with handsome public and private buildings and a busy people, to represent the glory and the prosperity for years to come of one of the most favored states for the residence of man in our broad Union. Its hills and valleys, swellings and flats, rivers and lakes give the greatest scope for the most beautiful landscape views, whilst the most fastidious or captious taste in the selection of building sites can be gratified to the fullest extent. . . . On the whole we were pleased, very much pleased with the sites of both the new and the old cities. Each is progressing in improvement beyond the belief of those who have not been witness to them. . . . They have a population, we think, of not less than 4,000, one-fourth of whom are

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[14] *Iowa Farmer and Horticulturist,* October 1, 1857, p. 1, c. 1.
[15] *Narrative History of the People of Iowa,* by Edgar R. Harlan, Vol. I, p. 336.

> domiciliated, many of them in capacious and tasteful residences, on the east side of the river, where the capitol grounds are located, and where there were not twenty-five persons living one year ago. The new capitol building is to be a fine three-story brick, and is progressing rapidly to completion. . . . The capitol grounds which we esteem well selected, have been so frequently described by the state press that we have nothing to add, except that it will require some liberal appropriations from the state to clear them out from the undergrowth, here and there cutting down a tree or two, and to enclose them with a suitable fence for preservation. This done it will be a delightful spot and afford from the highest point one of the most beautiful views in all central Iowa.[16]

Late in 1857, Mr. Wilson having sensed the advantages of location at the new capital city, removed the *Iowa Farmer and Horticulturist* to Des Moines and changed it to a weekly publication.[17] The Seventh General Assembly, the first assembly to meet in Des Moines, convened January 11, 1858, and by March 27 it had enacted a measure, which was approved and had become a law by publication, that provided for the establishment of a state agricultural college and farm, which was to be under the management of a board of trustees of eleven members, and the governor and president of the State Agricultural Society were to be ex-officio members. Section 27 of the act named the eleven members as follows: M. W. Robinson of Des Moines County; Timothy Day of Van Buren County, John D. Wright of Union County, G. W. F. Sherwin of Woodbury County, William Duane Wilson of Polk County, Richard Gaines of Jefferson County, Suel Foster of Muscatine County, J. W. Henderson of Linn County, Clement Coffin of Delaware County, E. H. Williams of Clayton County, and E. C. Day of Story County. Clement Coffin and E. H. Williamson declined to serve and Peter Melendy of Hardin County and John Pattee of Bremer County were appointed to their places. In order that the farming interests of the state might derive immediate benefit from the duties imposed upon the secretary, the governor was authorized to appoint a secretary from among the members of the Board of Trustees, who should hold his office for one year, after which the board was to elect the secretary. Governor Lowe promptly appointed William Duane Wilson secretary of the board.

Soon after his appointment as secretary he disposed of his

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[16] *Iowa Farmer and Horticulturist*, October, 1856, pp. 149-50.
[17] L. F. Andrews, *op. cit.;* also Mr. Wilson in *Iowa Homestead*, July 9, 1869.

Iowa Farmer and Horticulturist to Hiram Torrey and devoted his energies to his new duties which were multifarious. The secretary's office was established at the Statehouse. The salary of the position was $1,000 and expenses. The organization of the new institution, selection of the location, purchase of the land, construction of buildings, opening up the experimental farm, etc., involved many problems. Mr. Wilson had enthusiasm for the work. In editing and developing the *Iowa Farmer*, in aiding in organizing agricultural fairs in the new state, and his leadership in advocating the establishment of a state agricultural college, he had acquired a large and favorable acquaintance. He must have been efficient and well fitted for his work as secretary and chief administrator of the board, for after serving the year of his appointment by Governor Lowe he was elected by the board for a two-year term, and by reason of this and of re-elections, served until April 27, 1864, when a new act of the General Assembly went into effect.[18]

Concerning the personal appearance of Mr. Wilson at about this time, and of his enthusiasm for agriculture, Hon. Theodore B. Perry who was a member of the Iowa Board of Education from 1858 and for several years, in writing of the meeting of that board in December, 1859, speaks of Mr. Wilson as follows:

> . . . . In this connection, the name of General William Duane Wilson, secretary of the Agricultural Bureau at that time, should not, by any means, be omitted. He was an old man of more than seventy years (he was only a few months past fifty years old at that time.—Ed. ANNALS), whose face was ornamented on both sides by quite a rich growth of gray whiskers. He manifested an unbounded interest in agriculture, and never could understand why the board [Board of Education] should not make extensive provision for his favorite subject, among the first and foremost of its enactments. He continually labored for the founding of the Agricultural College and Farm, and never would tire in conversation upon his favorite topic. He was a kind-hearted, good-natured old gentleman, and always enjoyed the friendship and esteem of the members of the board.[19]

June 20, 1859, the board having received offers of land for sale and in donations from six different counties, located the farm in Story County[20] where it now is.

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[18] Reports of the Secretary of Iowa State Agricultural College and Farm, Second Report, p. 1; Report of 1867, p. 3; Fourth Report, p. 1.

[19] ANNALS OF IOWA, Vol. III, p. 205.

[20] *History and Reminiscences* of *I. S. C.*, by the Class of '97, p. 13.

One of the early acts of the board was on January, 1860, to declare it inexpedient at that time to elect a president of the College.[21] At the 1860 session of the General Assembly an attempt was made to repeal the act of two years before establishing the college and farm, and it was only by vigilant care that the friends of the enterprise prevented the repeal.[22] All the meetings of the board had been held in Des Moines until January 5, 1861, when the first meeting was held in the farm house on the college grounds. Improvements of the farm and farm buildings were progressing. The farm was being rented.[23] The first few years of this embryo organization was proving rather precarious. Agricultural education was something new and the financial conditions of the new state were depressed. The Civil War began early in 1861 and that great catastrophe occupied almost the entire attention of the state. Then came the Morrill Act of Congress which granted certain lands to the states for the endowment of institutions devoted to giving instruction in agriculture and mechanic arts, which passed both houses of Congress and was signed by Abraham Lincoln July 2, 1862.[24] The Ninth General Assembly in extra session passed an act approved September 11, 1862, accepting the grant and the conditions,[25] and by wisely handling the proceeds that came from the grant, together with modest appropriations from the state, the Board of Trustees were within a few years able to make progress in building and improvements.

The Tenth General Assembly passed an act which went into effect by publication on April 27, 1864, which made several changes in the law relating to the Board of Trustees of the Agricultural College and Farm. It repealed certain provisions of the act of 1858 and gave the board power to select a superintendent of the Agricultural College Farm, that the superintendent should reside on the farm, and that he should be secretary of the board.[26] Peter Melendy, who had been a member of the board from the beginning and had been on its most important committees, was made superintendent. This terminated Mr.

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[21] *Ibid.*, p. 14.
[22] *Ibid.*, p. 14-15.
[23] *Ibid.*, p. 15.
[24] *Ibid.*, pp. 15-16.
[25] *Laws of Iowa*, 1862, Ch. 26.
[26] *Laws of Iowa*, 1864, Ch. 121.

Wilson's official connection with the college and farm. He had served as secretary from the beginning, March, 1858, to this time. As to his efficiency the *Daily Register* of March 27, 1862, said:

> We had occasion to state some weeks since that the report of General William Duane Wilson, secretary of the State Agricultural College, would be found to contain a vast amount of practical information for our farmers. Since the publication of that notice the reports have been distributed to a considerable extent, and they have been received by the people with the most flattering attention. It was due to Secretary Wilson to say that, since he was appointed in 1858 to the position he now occupies he has labored intelligently and devotedly in his office, his labors have been untiring. He has been active and liberal in the distribution of seeds. He has won many friends by the intelligent interest which he takes in agriculture, and by his genial and accommodating manners.

In 1865 Mr. Wilson published *Description of Iowa and Its Resources,* in which every county in the state has separate mention, with valuable tables in regard to agriculture, education, religious denominations, railroads, manufactories, stage routes, etc., being a guide valuable to the immigrant. It contained the official vote of Iowa for the previous ten years, and a list of the state officers and of the county officers in the different counties for 1865. It contained 150 pages, 4 by 7 inches, and carried 34 additional pages of advertising, which are almost as interesting now as the main contents of the volume. The volume is a tribute to the industry and enterprise of the "Secretary of the Iowa Agricultural College," William Duane Wilson.[27]

About the time Mr. Wilson finished his work as secretary of the Board of Trustees of the Agricultural College and Farm he accepted a position with the Department of Agriculture at Washington, D. C., and remained there until 1869, when he returned to Des Moines where he continued to reside the remainder of his life.[28] The *Des Moines City Directory* of 1869 gives his residence as East Sixth Street between Sycamore and Chestnut. The directory of 1873 gives it as Sixth and High. In its issue of July 9, 1869, the *Iowa Homestead and Western Farm Journal,* published in Des Moines, has the following concerning him from the pen of Dr. G. Sprague, the owner of the paper:

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[27] See copy in Historical, Memorial and Art Department library.
[28] L. F. Andrews, *op. cit.*

General William Duane Wilson has returned to his home in this city, after several years of close application to duty in the Department of Agriculture at Washington, having cherished the hope that on his return he could, through this paper, renew his acquaintance with the agricultural public, and have an acceptable opportunity to devote what active life remains to him to the advancement of the agricultural interests of the state, with whose interests he has so long been identified. . . .

Mr. Wilson returned to the editorial work with apparent pleasure. His age was then sixty years and he rightfully expected many years of usefulness. The *Homestead* was a continuation in part of the *Iowa Farmer* which Mr. Wilson had disposed of in Des Moines in 1858. At this time, 1869, it was a weekly paper 12x18 inches, 5 columns, 8 pages, and had a good healthy looking line of advertising. He ambitiously began a campaign to increase its circulation. He was soon receiving many valuable contributions from interested subscribers, and ran articles of genuine interest on many agricultural topics, as well as on the meetings of the State Agricultural Society and its committees, on the state and county fairs, on the State Agricultural College and Farm, on the meetings of the Board of Trustees of that institution, and was making of it a worth while organ for the farming interests.

The farmers of this section of the Union were becoming more and more assertive about their rights. High rates of transportation on their products to eastern markets was a just cause of complaint, high prices on machinery and other materials they had to buy was another, while the prices on the grain and stock they sold frequently were exceedingly low. Largely because of these conditions many farmers began to devise plans to relieve the situation.

"The Patrons of Husbandry" was the name of a secret organization that started in the East. Its chief purpose was the co-operation of its members in buying groceries, lumber, wire, machinery, etc., which could be got at lower rates when purchased in quantities. Each local organization was called a Grange. Another purpose of the organization was social.

Mr. Wilson had advocated some such co-operative plans for years. By the time he returned from Washington to Iowa the Grange was just beginning to appear in the state, and before long we find he was a leader in the movement. In the September 9, 1870, issue of the *Homestead* there appears a list of the general deputies of the Patrons of Husbandry appointed by the national Grange consisting of sixteen men. General William Duane Wilson is given as one of the two general deputies from Iowa, the other one being Dr. James L. Enos of Cedar Rapids. They were authorized to organize new granges. Nine local granges were organized in Iowa in 1870, chiefly through Mr. Wilson's influence.[29]

The *Homestead* of January 20, 1871, page 5, contains an article about the organization of the Iowa State Grange, as follows:

> A State Grange for Iowa was organized on Thursday evening last by William Duane Wilson, general deputy, under the authority of the National Grange. The large attendance of delegates and deputies gave gratifying evidence of the interest our farmers feel in this organization, and their statements were unanimous in regard to the beneficial influence that has already resulted from it. The following persons were duly elected officers: Master, D. W. Adams, Waukon, Allamakee County; lecturer, Isaac Brandt, Des Moines, Polk County; overseer, J. L. Enos, Cedar Rapids, Linn County; steward, Peter Melendy, Cedar Falls, Black Hawk County; assistant steward, J. D. Whitman, Dallas Center, Dallas County; chaplain, C. D. Beeman, Waukon, Allamakee County; treasurer, William Anderson, Madison County; secretary, William Duane Wilson, Des Moines, Polk County; gatekeeper, W. H. Shower, Denison, Crawford County. Several applications were received for the opening of granges in different portions of the state. . . . Applications for subordinate granges should be made to the secretary of the State Grange, as above.

In the same issue of the *Homestead* which contained the above, January 20, 1871, Mr. Wilson says: "The great interest which the farmers of the state are manifesting in regard to the order of the Patrons of Husbandry induces us to devote a special corner to the movement therein . . . ." and regularly thereafter the paper carried a department called Patrons of Husbandry, which chronicled news about the organization of granges in many counties, and sometimes many granges in one county.

As time went on General Wilson gave more and more of his energies to the Patrons of Husbandry. Of course the interests of the grange and the interests of agriculture were so interwoven that while he was working for one he doubtless considered he was working for the other also. But evidently the duties of secretary of the State Grange became so great that they materially encroached on his work as editor of the *Homestead,* so that in the issue of the paper of July 12, 1872, he introduces former Lieutenant Governor B. F. Gue as editor. He says, "Having assumed other duties to aid the farming interests of the state [his work for the Grange] they grew upon us to such an extent as to seriously interfere with what we were striving to do for our paper." Notwithstanding that Mr. Wilson says in this three years' editorship and management of the *Homestead* its regular subscription list has trebled in number.

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[29] W. A. Anderson in *Journal of History and Politics*, Vol. XXII, p. 13.

Thus relieved from his editorial duties Mr. Wilson was free to give much time in the field lecturing and organizing granges. "A person of attractive appearance, a fluent and forceful speaker, with his tall form, flowing white patriarchial beard, and courtly manner, he aroused enthusiasm to a high degree."[30]

This was the period of the rapid growth of the Grange. The movement had been growing by leaps and bounds. It is said there were five hundred local granges in Iowa in 1872 and that Polk County at one time had thirty-five. Mr. Wilson was its foremost organizer in Iowa. While not organized for partisan political purposes, the Grange was striving to relieve the farmers of burdens. In the session of the General Assembly of 1874 the famous Grange Law was enacted which regulated freight and passenger rates and otherwise controlled railroads. This was brought about largely by the power of public opinion which was made vocal and directed by the Grange. General Wilson had a considerable part in creating and organizing this public opinion. He continued as secretary of the Iowa State Grange until the close of 1873 when age admonished his retirement from its arduous duties.

In 1874 the *Western Farmer and Patrons' Helper* was established in Des Moines and Mr. Wilson became an associate editor and so remained until his death. That publication was made the state organ of the Grange.[31] He also became chaplain of the

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[30] L. F. Andrews, *op. cit.*

[31] *Iowa State Leader,* Des Moines, January 8, 1877; also *Rowell's Newspaper Directory,* 1877, p. 90.

State Grange. He was confidential adviser, critic and earnest supporter of the order.

Mr. Wilson was an active and exemplary member of the Presbyterian church. It is said that in 1863 there were a number of Negro refugees in Des Moines who had escaped into Iowa. The Central Presbyterian church, then located on Fourth street, organized a mission Sunday school of which General Wilson was the first superintendent.

As to his personal characteristics L. F. Andrews says:

> Mr. Wilson was of sanguine temperament, active, ardent, hopeful, confident, firm in opinion, had the courage of his convictions; did not hesitate, as the adviser of the Patrons and Granges, to criticize them, yet left no sting behind.
>
> Socially he was affable and courteous to all. Reared in an atmosphere of intelligence and refinement, under the guidance of a mother noted for her Christian virtues, he enjoyed most the companionship of the refined and cultured. He was an honored member of the Masonic fraternity.
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> His was a long, active life, well spent; fraught with intimate business and social relations with thousands of men, without enmity; uprightness without harshness; a gentleman, whose sympathies were always with the laboring man; a loving, devoted husband and father; a wise counsellor and faithful friend.

In its issue of January 9, 1877, the *Iowa State Register* speaks of General Wilson's death in part as follows:

> To him had come that good fame which follows in the footsteps of honor, that respect which arises from conscious worth, and that regard which is ever developed by kindly deeds and generous words. The appeal of the poor never passed unheard by him. With a generosity more lavish than his fortune, he gave when justice might have forbidden the donation. This was the man the city mourns today.
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> . . . . .
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> During the past two years his health has been gradually failing until about two months since he was missed from the streets, and last Sunday morning (January 7) he breathed his last, and the weary, worn soul was at rest. A wife who faithfully shared the good and ill of his checkered life, and two children, George, railroad agent at Grand Island, Nebraska, and Mrs. Judge Snyder, are left to lament him. . . . . The funeral services will be at two o'clock this afternoon from the Central Presbyterian Church.

CHERRY PLACE

By Halla Rhode

Cherry Place is one of the oldest landmarks in East Des Moines. The house is situated on the northeast corner of East Grand Avenue and East Twelfth Street and is well preserved although almost fifty years old.

The present house is the second one to be built on the same grounds and known by the name of Cherry Place. The first one was built in the new Lyon addition, a tract of land that was laid out in lots in 1856 by Harrison Lyon. At that time, Des Moines or rather Fort Des Moines was ten years old, with a population of 3,830. A part of the street now known by the name of East Grand Avenue that lay between East Twelfth and Dean streets was known by the name of Keokuk Street, later it was changed to Sycamore and still later to East Grand Avenue.[1] It was really only a narrow road cut through the woods. At the corner of East Thirteenth and Keokuk streets was a deep wide ravine with some logs thrown over it. The stage coach and other conveyances frequently mired down in it.

Isaac Brandt, a young man from near Columbus, Ohio, came to Des Moines in 1856 to look over the town as a possible location. He did not like the looks of the town and so went on to Council Bluffs, but he did not like Council Bluffs for a location, although he invested in lots there, so he walked back to Des Moines and decided to locate here. After staying in Des Moines a short time he returned to Ohio for his wife and family.

He came with them to Des Moines in the spring of 1858 and decided to locate on the east side of the Des Moines River because of its closeness to the new Capitol. The offices of state government had been moved from Iowa City in the fall of 1857, and were occupying the newly erected building located on the site where now stands the Soldiers' and Sailors' Monument. In looking about for a home he saw the house he later named

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[1] Index to grade ordinance, office of city engineer, Municipal Building, Des Moines, Iowa. C. C. Green, office engineer, states that the location of Dean Street is lost, that it is not the present Dean Avenue.

Cherry Place. It was small and almost surrounded by native timber. There was an abundance of wild cherry trees, wild plums, oak and walnut, and wild grape vines grew in great profusion. But best of all it was close to what was then the new Capitol building, and this fact is what made Isaac Brandt decide to buy the place.

While Mr. Brandt waited for possession of his new home, he lived in a small two-roomed house which he rented on East Seventh between East Walnut and Locust. This house was afterwards occupied by Mr. Nathan Mills who operated a private school there which the Brandt children attended. Mr. Mills had a high reputation as a penman and was considered an excellent teacher of an art that was highly prized at that time, penmanship.

Mr. Brandt established his business of merchandising on East Fourth and became a prominent east-side business man. He commenced at once to fell the trees and clear the land around his new place. He had purchased from Mr. Harrison Lyon most of the lots that made up the entire block between East Twelfth and Thirteenth streets immediately north of Keokuk Street with the exception of a few lots now occupied by the Capitol Hill Church of Christ.

This house purchased by Isaac Brandt was small, being a story and a half high, but with a good basement that contained a dining room, kitchen and laundry room. Mr. Brandt added to the house until he had seven rooms on the main floor and these, together with the one large bedroom on the second floor as it had been in the original house, and the basement rooms made ample space for his family. The ceilings were all low, but the rooms were large, and with plenty of windows they were airy. The house was finished throughout in white and black walnut. There was a cistern and a well of cold pure water, the supply of which was abundant. Mr. Brandt trained some of the wild grape vines over the side porch, making an attractive shade and adding much to the beauty of the place.

He planted an orchard of cherry, pear and apple trees, and carefully preserved some of the wild cherry and plum. Some of the older people have told me that the cherry trees were especially beautiful in blossom time and that the place was noted because of them. Mr. Brandt gave the name Cherry Place to his new home.

Isaac Brandt was a man of pronounced views on most public questions. The subject of abolition was a burning one and Mr. Brandt was an ardent exponent of it. He not only talked it, but he helped any stray Negroes he could to escape to their freedom. Cherry Place became one of the "stations" of the "Underground Railroad."

He was a friend of John Brown who perhaps made more than one trip to Cherry Place. At least John Brown was entertained once at Cherry Place by Isaac Brandt. John Brown came to Cherry Place very early one morning in a wagon filled with corn fodder which covered four Negroes. He stopped and visited with Mr. Brandt and had breakfast. When he left Mr. Brandt accompanied him as far as the little picket gate in the front yard and bade John Brown good-bye, shaking hands across this gate. The truth of this story is vouched for by Miss Olive Brandt, the youngest daughter of Isaac Brandt.[2] Her memory of her own experiences at Cherry Place and her recollections of the early times as told by her father are vivid and accurate. We are indebted to her for most of the facts in this article.

Along in the early part of the eighties, Mr. Brandt decided to build a new house. The new Capitol was being constructed and one of the head carpenters, Mr. William Crawshaw, had moved near the Brandts while he was engaged in work on the new Capitol. Mr. Brandt secured him to take charge of building his new house.

It took Mr. Crawshaw two years to assemble the lumber for the house. He bought only the best, being especially careful of the mahogany, walnut and oak he was going to use for finishing. He sent south for most of the lumber.

In March, they moved the old house back and started work on the construction of the new one. A deep basement was dug which enclosed the well of good drinking water of which Isaac Brandt was so fond. The stone mason work was done by William and George Van Dyke who had worked on the Capitol.

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[2] "He also told me that, and from the front steps of the Historical Building pointed out the site of the circumstance."—E. R. Harlan.

In giving the facts in this article, Miss Brandt laughingly related the following incident: "When they got the large furnace chimney up and the timbers for the framework of the house, two enterprising insurance men got after my father to insure the house as it stood against accident. Pa finally took out insurance to get rid of them. On the Fourth of July a heavy electric storm struck the large furnace chimney, completely demolishing it. It did little or no damage to the rest of the house. Of course the five hundred dollars took care of the damage with some to spare." The house was finished so they could move in and have their Thanksgiving dinner in it.

It was a commodious house, there were six rooms besides the large hall, vestibule, two pantries, bathroom and alcove to the library on the first floor. The second floor contained seven rooms and two baths, and the third floor was finished in one large room with the floor waxed for dancing. The basement contained a suite of two rooms for the houseman, also laundry, furnace, coal, vegetable and fruit rooms.

As late as the eighties, furnaces were rare in Des Moines and Mr. Brandt had a man come from New York City to install a huge hot air furnace in the new house. There were eight fireplaces in Cherry Place, four upstairs and four downstairs. Miss Brandt says they did their cooking on a large coal stove in winter, but in summer they cooked on gas. The house was lighted by gas.

The woodwork in Cherry Place is still fine after almost half a century. It was hand carved and has been beautifully finished. The work was done by men who knew their craft well. Some of them worked on the new Capitol which was then nearing completion. The resemblance of the carving on the woodwork in the Capitol to that of Cherry Place is quite noticeable.

The variety of woods in the different rooms is interesting. The drawing room and library are finished in mahogany, the northwest and north rooms are in oak, the east room, which was a bedroom, in bird's-eye maple.

Isaac Brandt's love for the trees grown on his place is shown in the unusual wainscoting which is in the vestibule. The panels are small, and are made of oak, walnut, wild cherry, tame cherry, pear and apple. These first three species are made from native timber cut from the place, the last three from trees which he had planted and cultivated. Its beautiful finish added distinction and interest to the entire house. The floors were all carpeted to the baseboard, the carpet in the drawing room woven in one piece, with a border. The walls were papered. Lace curtains were at the windows and drapes of various colors were used in the different rooms. The blinds were Venetian and many of them are still in use. The original color of the house on the outside was a very light green with trimmings of a darker shade of the same color.

The wide porch on the front, another on the west side and a smaller one on the north gave it an air of hospitality that was usually apparent in houses of the eighties.

Isaac Brandt was a contemporary of a group of distinguished Des Moines men who obtained public recognition both national and international. They were his devoted friends and frequent guests at Cherry Place. Among this group were John A. Kasson and Edwin H. Conger.

However, Mrs. Brandt did not care for social life and preferred charitable and church work to society. Instead of small selected parties she held open house about three times a year, to which she invited every one, rich and poor, alike.

In the eighties and nineties there was no organized charity work in Des Moines, but Mrs. Brandt was always interested in people who needed help. One of her store rooms was used for discarded clothing, bedding and anything and everything, including all kinds of food supplies that were needed by poor families. These were regularly sent out to the poor by Mrs. Brandt and carried to them by Olive Brandt who had a pony and cart (known as a dog cart) that she often used for this purpose. Miss Brandt says that her mother regularly cared for six families.

Isaac Brandt was as zealous an advocate of temperance as he had been of abolition. During this period there was a great deal of temperance agitation and many apsotles of this cause were in Des Moines. Many nationally known lecturers spoke here, among others, John B. Gough, and were entertained at Cherry Place.

Mrs. Brandt with her family were members of the Wesley Methodist Episcopal Church. The present edifice was dedicated April 20, 1884, by Bishop Cyrus B. Foss of New York City.[3] Mrs. Brandt was asked to entertain Bishop Foss since they had so much room in the new home. Miss Brandt recalls his visit with keen pleasure, remarking that he possessed an attractive, genial personality, making friends with all. After he had gone they found he had left his autographed photograph for them.

The history of Cherry Place is interwoven with that of the growth and development of Des Moines.

TELEGRAPH MOVEMENTS

The Great Western Telegraph Company has reached Des Moines. Its workmen entered Walnut Street near the dwelling of Mr. Redhead, crossed the bridge and continued on the street until in the vicinity of Mr. Allen's residence. They thence propose to follow the railroad to Avoca where they leave the track and proceed to the Bluffs by a more direct route than the road. At present the company are extending a wire of peculiar construction. It is about the thickness of a stout darning needle, but it compensates for the reduction in size by the increase of strength. It is a strip of steel coated with tin and enclosed in copper, the outer surface of which is also galvanized with tin. The textile strength of this steel wire is greater than the old-fashioned iron wire, and its peculiar construction gives to it six times the conductive force. It will not oxydize and will carry lightning as well in damp weather as in dry.

In connection with this, the Hawkeye Telegraph Company are pushing forward to completion. They are the only independent company in Iowa, and have about fifty miles in operation from Marshalltown northward. This season they will extend their lines northward to the Minnesota border, and through this city to the Missouri line. They are live, active and enterprising, with a live, active and enterprising man for President, Mr. R. W. McBride, of the *Eldora Ledger.*—*Daily Iowa State Register,* Des Moines, Iowa, March 31, 1870. (In the Newspaper Division of the Historical, Memorial and Art Department of Iowa.)

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[3] Records of Wesley Methodist Episcopal Church, Des Moines, Iowa.

ANNALS OF IOWA

EDITORIAL DEPARTMENT

MESQUAKIE INDIANS AND THE WHEELER-HOWARD BILL

By E. R. Harlan

The proponents of this bill owe to Mesquakies all patience in explaining its meaning in advance of their adopting or rejecting it. Such explanations should be in sympathy and patience. It should be made in the Mesquakie language. It should be given clearly to each individual who is entitled to vote upon it, so that he may feel certainty in his judgment that he knows what to expect without taking the opinion of any other person. He should know, if the bill becomes law, what that law would mean to his entire tribe, and he should know what it means to himself as an individual. He should feel what it means to his children. He, as an individual, is principally if not primarily interested, not only in Mesquakie property and government as a whole and as his individual part, but he should feel his responsibility for the time being, for the better or worse in the prospects and assurances of his ultimate descendants.

These Indians are farmers. They may not be the best, but they are certainly not the worst of Iowa farmers. They are embraced whether intended so or not, in every measure intended for the weal or woe of Iowa farmers.

In the first Roosevelt administration, an Iowa master-minded farmer was secretary of agriculture, James Wilson of Tama County, Iowa, fellow citizen with the Mesquakie Indians. He called into being "The Country Life Commission." A member of that commission was another Iowa man, master-minded as to agriculture and humanity, Hon. Henry Wallace, founder and then editor of *Wallaces' Farmer*. During the service to his country on that voluntary Country Life Commission, *Wallaces' Farmer* continued its influence in Iowa agriculture and morals through "Uncle Henry" having previously called to his aid his son, Henry Cantwell Wallace, as editor, and another son, John P. Wallace, publisher, of *Wallaces' Farmer.* Henry Cantwell Wallace became then, or soon afterward, secretary of agriculture in the cabinet of President Harding, remaining in the administration of President Coolidge, and until his own death in that great office. During the absence of Henry Cantwell Wallace from Iowa in the cabinet, his brother John P. Wallace was joined in the responsibility of "Good farming, clear thinking, right living," and leadership in agricultural Iowa thereby, through calling to his side the "third Henry," namely, Henry Cantwell Wallace's son, Henry Agard Wallace, now (1936) secretary of agriculture in the cabinet of Franklin Delano Roosevelt.

This writer was one of the thousands of Iowa people who knew, loved and benefited by "Uncle Henry" Wallace's clear and positive thinking.

On one occasion Uncle Henry stated, in effect: "The problem of country life will never be understood until it is conceded that life upon, and from occupancy of the land, is entitled to be considered as of right in every respect equal to life in towns and cities. It takes the production by a careful farmer and good manager, of twenty acres of a good farm for each member of his family, to produce and pay for his family expenses, when they are the same as the conveniences and necessities of the family of his brother in town. Until the farmer gets that into his own mind and gets the consideration for his enterprise into the minds and hearts of all his fellow citizens, he will not have obtained from life that which he and his family have earned."

In 1925 the Mesquakies were planning for their usual summer festivities called their Pow-wow. They asked this writer to provide for them on their program some good man who would talk to them. Henry A. Wallace was asked to serve, and gladly consented. He, in company with his uncle, John P. Wallace, and his friend, Mark Thornburg, then Iowa secretary of agriculture, went early on the morning of Mr. Wallace's appearance. They spent the entire forenoon applying their expert agricultural experience and philosophy in a study of the Mesquakies, especially with regard to their living conditions, agricultural enterprise, social life and all the points that go to make good or poor fellow citizens. With the aid of an interpreter they interviewed two of the elder members of the tribe, James Poweshiek, and Young Bear.

Mr. Wallace's address was most inspiring to the Indian men, women and children, for he spoke of corn and the food products, both native and introduced, in fact and in method of propogation. His address was never published, but remains part of the teaching of the more prudent of the leading members of the Mesquakie tribe, in their tribal talks upon methods and measures for bettering their conditions.

But *Wallaces' Farmer,* in the issue of September 18, 1925, contains the report or "story" resulting from Mr. Wallace's and Mr. Thornburg's consideration of their day with the Mesquakies, in Mr. Wallace's division of *Wallaces' Farmer,* "Odds and Ends." It is as follows:

> Every year in September, the Tama Indians hold a pow-wow, and this year it was my good fortune to go with my uncle, John P. Wallace, and with State Secretary of Agriculture Thornburg, to inspect some twenty-seven different cornfields, in an effort to find out the ones most deserving of prizes. It was a splendid opportunity to find out the extent to which these Indians have adopted the corn growing methods of the white man. Most of the fields of dent corn are planted with a good strain of Reid obtained originally from white farmers in the neighborhood. We found a few fields which had been given really clean cultivation. In most of them, however, could be found such weeds as cocklebur, butter-print, morning-glory or sunflowers. None of the fields would make more than sixty-five bushels per acre, and most of them would average around forty-five bushels. Eighty-bushel yields of corn are practically impossible under the Indian system of farming, because they keep very few animals and have no manure to haul out on the land; because they grow practically no clover, and because they sell most of their grain and straw off the land. They really have a long way to go yet before they become good farmers in the white man's sense of the term.
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> The interesting thing about the Tama Indian agriculture is not so much the dent corn and oats which the men grow to sell in Tama, but to squaw corn, beans and squashes which the women grow for family consumption. The squaw corn is an eight-row white or blue semi-flint which is two or three weeks earlier than the dent corn. Of this the Indians make many food preparations, claiming that a much better tasting product results than when the deeper kerneled dent corn is used. Much of the squaw corn is harvested while it is in the milk, and the kernels are sliced off of it and dried. Every family has its beans, which

are grown on poles. These are real Indian beans about the size of kidney beans, and speckled in color.

In some way or other these Tama Indians seem to be unusually successful in maintaining a rather large population on a small area of land. There are 3,600 acres in the reservation, and of these only 1,500 acres are in crops. Nevertheless there is a population of 360 Indians, or one Indian for each four or five acres of crop land. In the case of the white farmers of Iowa we have one white person for each twenty acres of crop land. It would seem that the Indians must exist largely on corn, beans and squashes, without much meat, in order to maintain such a dense population.

The Tama Indians themselves interested us even more than their farming methods. Most of them still speak their own language. The old-fashioned Indian village which they had constructed on the pow-wow grounds quite fascinated us. A number of wickiups had been constructed from mats which had been made out of the leaves of the cat-tail plant. The central gathering place was constructed of poles set in the ground with the green branches of willows, poplars and maples laid across on top to give shade. In the center of it they put a kettle-drum or tom-tom, and six or seven of the older Indians sat around it and beat it, giving weird yells in time to the rhythm of the beat. Then the men came out in double file, stamping in rhythm to the drum beats. Inasmuch as they had bells at the knees and ankles, it was quite important that this stamping be done just right. Then the women came out swaying in time to the rhythm, but not prancing in the same vigorous way as the men. The whole thing has a strong barbaric appeal. The Indians look on many of their dances as expressing gratitude to Divine Providence for a favorable crop growing season. None of the white man's dances have in them a particle of the religious note which characterizes many of the dances of primitive peoples. It seems that we may have lost something thereby.

To the external eye, the Tama Indiana do not seem to be leading such a very desirable form of existence. They do not have the same desire to become wealthy and spend their money in a conspicuous way, as we. They seek happiness in their own way, and apparently they find a fair measure of it. Perhaps they are getting as much joy out of life as we. The white man's dynamic civilization is making a great splurge in the world for the time being, but there is always a possibility that the historians of some dim, distant future age will look back and say that the white man of today made a great show for a time, but that the civilization finally withered because changes could not be made in social systems fast enough to meet the changed ways of life brought on by new inventions. In spite of their sky-scrapers, their automobiles, their telephones, and their hundreds of millions of people, it may be that in the long run the white people will have done very little more to justify their existence on this contiinent than the red Indians have done.—H. A. Wallace.

HENRY WARD BEECHER

A vast number of Iowa pioneers were from Indiana. One of those continued his subscription to the *Western Farmer and Gardener,* then published in Indianapolis. He brought with him at least the volume for 1846. There was a craving on the part of the Hoosiers and of those from Ohio, Pennsylvania, New York, and even the New England states, for cultivated fruits. Nearly all brought their newspapers that would direct them into the transplanting to Iowa soil the fruits of their native states. We have in the Historical Department a few of those basic library resources.

The *Western Farmer and Gardener,* published in Indianapolis, Indiana, had a striking admixture of moral philosophy along with agriculture. That is not to be wondered at when it is recalled that its editor in chief was Henry Ward Beecher, then pastor of a Congregational church at Indianapolis.

Due to the singular resemblance of our recent depression to other depressions, we feel it is appropriate to give readers of the ANNALS a specimen of what Mr. Beecher published in 1846 in his farm paper. Whether it is from an exchange or is original, we have no means of knowing, but is worth reading for its classic common sense.

CAUSE OF AND CURE FOR HARD TIMES

By An Old Farmer of 1788

I profess myself to be an honest farmer, for I can say that no man can charge me with a dishonest action. I see with great grief that all the country is afflicted as well as myself. Every one is complaining, and telling his grievances, but I find they do not tell how their troubles came on them. I know it is common for people to throw the blame of their own misdeeds on others, or at least to excuse themselves of the charge. I am in great tribulation, but to keep up the character of an honest man, I cannot in conscience say that any one has brought my troubles on by myself. "Hard times—no money!" says every one. A short story of myself will show how it came to be hard times with me, and no money at the age of sixty-five, who had lived well these forty years.

My parents were poor, and they put me at twelve years of age to a farmer, with whom I lived till I was twenty-one. My master fitted me with two stout suits of homespun, and four pair of shoes. At twenty-one I married me a wife, a very good young woman she was. We took a farm of forty akers [*sic*] on rent. By industry we gained fast. I paid my rent punctually and laid by money. In ten years I was able to buy myself a farm of sixty akers, on which I became my own tenant. I then in a manner grew rich, and soon added another sixty akers, with which I was contented. My estate increased beyond all account. I bought several akers of outland for my children, which amounted to seven when I was forty-five years of age.

About this time I married my eldest daughter to a clever young man, to whom I gave 100 akers of land. This daughter had been a working, a dutiful girl, and therefore I fitted her out well, and to her mind exactly; for I told her to take of the best of my wool and flax, and to spin herself gowns, coats, stockings, &c.; nay, I suffered her to buy some cotton to make into sheets; I was determined to do well by her.

At this time my farm gave me and my whole family support on the product of it, and left me one year with another, one hundred and fifty dollars, which was for salt, nails, &c. Nothing to wear, eat, or drink, was purchased anywhere, as my farm provided all. With this saving, I put my money to interest, bought cattle, fattened them, and made great profit.

In two years after my second daughter was courted. My wife says, "Come, you are now rich; you know Molly had nothing but what she spun, and no clothing has ever come into our house for any of us. She must be fitted out a little; she ought to fare as well as neighbor B.'s Betty." "Well, wife, it shall be as you think best, I have never been stingy, but it seems to me that what we spin would do." However, wife goes to town in a few days, and returns with a calico gown, a calimanco petticoat, a set of stone teacups, and half a dozen pewter spoons, things that were never seen in my house before. They cost but little—did not feel it—and I confess I was pleased to see them. Sally was as well fitted out as any girl in the parish.

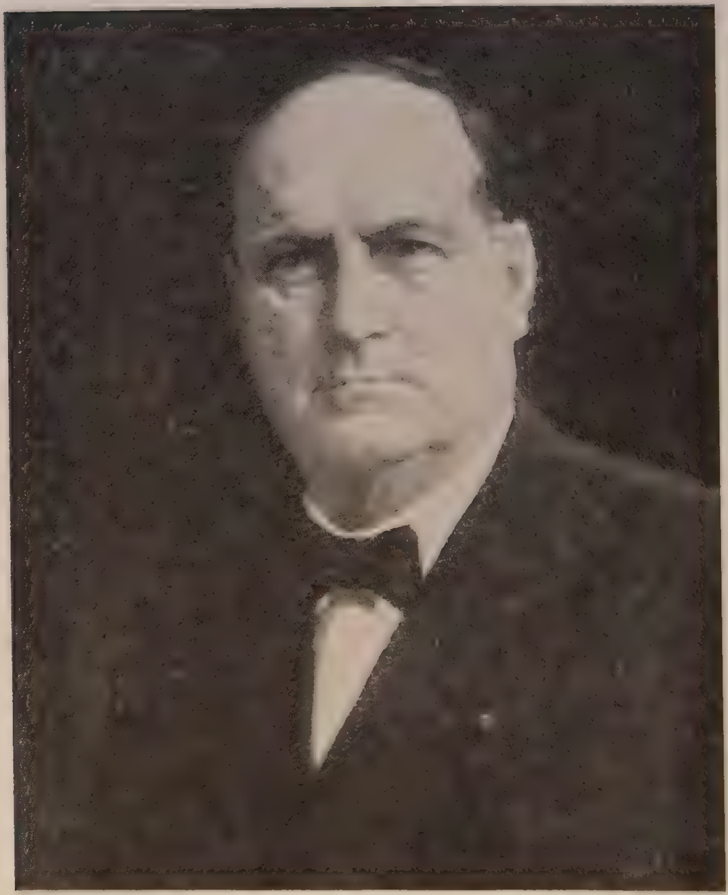
In three years after my third daughter had a spark, and a wedding concluded upon. Wife again comes for the purse; but when she returned what did I see? A silk gown, silk for a hat, looking-glass, china tea gear, &c., and a hundred other things, with the empty purse. Then followed jealousy and quarrels. Molly ought to be outfitted as well as Betty. Good homespun and cotton fixtures were ruled as vulgar, and white feathers and silk must take their places; Sal's husband must speculate in stocks; backed endorsement; but *he* had all the fun of speculating, and I had all the misery of *paying*. Then grandpa must be the treasury department for all things needful. Nothing was heard but arrangements for journeys, balls, parties, and such like.

In about a year Bet's husband made a mistake, and signed somebody else's name to a check instead of his own. He was arrested and sent to jail, and I had to send half of my earnings to get him out. Sal's husband died, leaving a legacy of nine children, whom, with their mother, I've got to support. Bet's elder boy was framed for a doctor, took his degree, and sent his first six patients out of the world by improper treatment, for which he had to fly the land, leaving his dear incumbrances *attaches* on my purse.

I could fill your paper with further particulars, but that might not be so agreeable to your readers. I will only say, in regard to hard times, let every man exercise the ability nature has given, in his prescribed sphere; let contentment reign within the breast, no envy reach its threshold. Regard not the apparent glitter of thy neighbor, nor aim at an equality beyond your comprehension; live more to please yourself, and less to please other people; be frugal, industrious and just; bring your ideas down to a level, nor let them be disturbed by bad example. So shall you avoid the mishaps I have experienced in family matters, and rejoice in old age over a life well spent, with just hopes for years hereafter.—*Western Farmer and Gardener,* December 16, 1846, Vol. II, No. 24, p. 380. Published at Indianapolis, Indiana. Henry Ward Beecher, editor; S. V. Noel, publisher and printer. (In the Newspaper Division of the Historical, Memorial and Art Department of Iowa.)

HARD TIMES

Complaints of hard times are heard in every quarter of the globe. Among us it is the general cry, yet we believe that when our condition is contrasted with that of our eastern brethren, save that of eastern traders, it affords nothing to complain of. Our citizens who have recently returned from a visit to their former homes represent the eastern states in a deplorable condition. Money is scarce every where, yet with us no shinplasters or the notes of picayune institutions are in circulation, while east of us in Ohio, in particular, shinplasters are all the go. By this method of supplying a circulating medium thousands of honest and industrious farmers and mechanics in the east are swindled out of their dues, while with us accounts stand against our creditor, or our pay is good. Then let us learn to bear well our misfortunes, reflecting that we are not the only people suffering, but on the other hand we should rejoice that we are among the most favored of the land. Times with us are good considering that we are under a Whig administration, therefore we should not pine, but rejoice that we are not under the dominion of Banks, and the swindling operations that flourish in their rear.—*Bloomington Herald,* Bloomington (Muscatine), Iowa, November 26, 1841. (In the Newspaper Division of the Historical, Memorial and Art Department of Iowa.)



JOHN HAMMILL

Governor of Iowa, 1925-31. From a portrait from life in oil by Carl W. Rawson, 1930, in the collections of the Historical, Memorial and Art Department of Iowa

NOTABLE DEATHS

John Hammill was born at Linden, Iowa County, Wisconsin, October 14, 1875, and died in a hotel in Minneapolis April 6, 1936. Burial was in Evergreen Cemetery, Britt, Iowa. His parents, George and Mary (Brewer) Hammill, removed with their family to near Britt, Hancock County, Iowa, in 1889. John was graduated from Britt High School in 1895 and from the Law Department of the State University of Iowa in 1897, was admitted to the bar June 9, 1897, began practice in Britt, was elected county attorney in 1902, was re-elected in 1904, and served four years in that office. In 1908 he was elected senator and served in the Thirty-third and Thirty-fourth general assemblies. In 1920 he was a candidate in primary election for the Republican nomination for lieutenant governor in a closely contested field of Wallace H. Arney, John Hammill, William F. Moore and James M. Wilson in which he emerged third, but no one receiving the necessary thirty-five per cent it went to the convention where Mr. Hammill was nominated on the second ballot. He was elected at the general election following, was renominated two years later and re-elected. In 1924 he was a candidate for governor in the primary in a close race, the candidates being Joseph H. Anderson, Albert J. Banks, William J. Burbank, Jonas Demos Buser, John Hammill and Glenn C. Haynes, in which he was high man, but not receiving the required per cent the convention gave the nomination to him on the first ballot. In 1926 he was re-elected, and was a candidate in the primaries in 1928 for a third term in a field of Marion E. Anderson, M. L. Bowman, John Hammill and Lars J. Skromme in which he won, and was elected at the general election, becoming the second man in the history of the state who won the third consecutive election as governor. In 1930 he became a candidate in the primary election for United States senator in a field of Lester J. Dickinson, John Hammill, Frank J. Lund and William O. Payne, in which he emerged second, Mr. Dickinson being nominated. Mr. Hammill was a man of large stature and great vigor, and at the time of his death had thrown his energy into his last fight—that to retain the Minneapolis & St. Louis Railroad in its present form. Having been raised on a farm and always living among agricultural people, and being the owner of some good farms himself, his interests and sympathies were with the farmers in their recent struggles. During his first term as governor he called together at Des Moines a convention of farmers from the Middle West from which resulted a large committee which he accompanied to Washington to ask for legislation to give farmers relief. It was under his administration that the present great system of paved highways reaching every part of the state was developed. The conduct of his office for the three terms entitled him to be regarded as one of the able executives of the state. The last honor Mr. Hammill received from his party was his selection by the recent Republican State Convention as a delegate at large to the National Convention at Cleveland.

William D. Evans was born in Marquette County, Wisconsin, May 17, 1852, and died in Hampton, Iowa, May 4, 1936. Burial was at Hampton. His parents, Evan J. and Ann (Davis) Evans, removed their family to Williamsburg, Iowa, in 1858. He grew to manhood there and received his primary education in its public schools. When sixteen years old, owing to the illness of a teacher of some of his classes, he substituted as teacher for considerable time. When seventeen he taught at Marengo, and for a few years followed teaching. In 1873 he entered the State University of Iowa. While a student at the university he taught school, and was used as instructor in a number of teachers' institutes during vacations. In 1876 he organized a high school at Geneva, near Hampton, and taught there. He was graduated from the liberal arts course of the university in 1878, fully intending to devote himself to the profession of teaching, but being disappointed in securing the kind of position he wanted, concluded to take a law course, which he did, and was graduated from the Law Department of the State University in 1879. As one of the places he had taught in institutes was at Hampton, and realizing he was considerably acquainted there, after his admission to the bar, located there in 1879, forming a partnership for the practice of law with T. B. Taylor as Taylor & Evans, which partnership continued for twenty-three years, or until he was elected judge of the Eleventh Judicial District in 1902. During the year 1907-8 he was law lecturer at the State University. He remained on the district bench until 1908. On July 8 of that year Charles A. Bishop, a justice of the Supreme Court, died. On September 10 Judge Evans was nominated by a specially called Republican state convention to nominate a candidate for the vacancy. On September 11 Governor Cummins appointed him to the vacancy, and he was elected in November, and by reason of re-elections he served until December 31, 1934, over twenty-six years, the longest career on the Supreme Court in the history of the state.

The foregoing is the brief biography of a great citizen of Iowa who has passed away. However, it but faintly expresses the true history of this very remarkable man. Justice Evans was not a politician in any sense of that term. He had no aspirations for political preferment. He sought only to serve in his profession. He was an able advocate at the bar, and an ideal trial judge. His greatest service, however, was during his long tenure on the Supreme Court. He brought to his work a profound knowledge of the law and a fearless and conscientious desire to administer it with the highest ideals of justice. During his long service on the Supreme Court, many new and intricate problems came before that tribunal. He brought to their solution a wealth of legal knowledge and also a keenness of analysis and a foresight that was invaluable to his colleagues and of inestimable importance to the people of this commonwealth. The author of more than two thousand opinions, he wrote on every branch of the law, and his opinions were always clear, definite and illuminating. Aside from his great legal ability and untiring industry, he was a citizen of the highest character and the most lofty ideals. He was utterly incapable of aught that was little or undignified. He was ever the Christian gentleman, thoughtful and considerate of the opinion of others, but unswerving in what he believed to be the right. His marvelous contribution to the jurisprudence of Iowa will last through the centuries yet unborn.—F. F. F.

Elmer Marston Wentworth was born at Newfield, York County, Maine, May 8, 1861, and died at Mount Dora, Florida, April 12, 1936. Burial was in Pine Hill Cemetery, Dover, New Hampshire. His parents were John Norris Wentworth and Nancy Titcomb Wentworth. He grew up on a farm but received public school education in Dover, New Hampshire, the family having removed there. He was graduated from the Dover High School in 1879. For a few years he worked for True & Leighton, pork packers of Portland, Maine, and for ten years for Samuel W. Allerton, wholesale dressed beef and provision dealer, as district manager. In 1893 he entered the employ of the Pennsylvania Railroad Company, removed to Chicago and became general traveling agent of that company. In 1894 he removed to Marshalltown, Iowa, and in 1896 to State Center. Mr. Wentworth's duties with the railroad company brought him into contact with leading agricultural people. From 1899 to 1901 he was president of the Improved Livestock Breeders' Association, and from 1909 to 1913 was a member of the State Board of Agriculture of Iowa, now the State Fair Board. He also participated actively in the dairy organizations of the state during those periods. He was an ardent Republican and from 1894 to 1918 he participated in many political campaigns. He made a notable gold standard speech in the McKinley-Bryan campaign, and as an outgrowth of this speech there was formed the Traveling Men's Republican Club. The policy of his employing company prevented him from accepting political positions, although he was at different times the recipient of flattering offers of support. He very actively supported Senator Cummins and also Senator Dolliver in their campaigns. Few men of Iowa had met and personally known more men of state and national prominence than he had. Although Mr. Wentworth went no further in scholastic training than high school he was a well educated man. He acquired an extensive private library and became familiar with much of the best in literature. In public speaking he was master of a vocabulary of choice Anglo-Saxon derivation which aided him to give clearness and vigor to his utterances. He was a man of large talents and impressive physical strength. One of his many activities was in the Society of Sons of the American Revolution, being president of the Iowa society in 1911, and president-general of the national society for two years, 1916 and 1917, and a member of its executive committee twenty-two years. During his presidency of the Iowa society he inaugurated the observance of Constitution Day. From January 1, 1918, until March 1, 1920, the railroads were operated by the Federal Government as a war measure, and during that time Mr. Wentworth was removed to the East. He then sold his property in State Center and removed his family to Des Moines. In 1920 he returned to Des Moines and continued his work for the company until his retirement in 1931. He then removed to Mount Dora, Florida. At State Center he was a member of the local school board. At Mount Dora he took an active part in political, social and economic life, and with local public improvements, and continued to exercise his rare social abilities and faculty of making friends.

John Enster Craig was born in Claysville, Washington County, Pennsylvania, March 14, 1853, and died in Keokuk, Iowa, February 27, 1936. His parents were Alexander K. and Sarah (McLain) Craig. He was educated in public school and Washington and Jefferson College, Washington, Pennsylvania, from which he was graduated in 1877. In the meantime he had been doing farm work and teaching school to earn the means to pursue his education. He removed to Keokuk in 1878 and became a law student in the office of his uncle, John H. Craig. In 1879 he was admitted to practice and became a member of the firm of Craig, Collier & Craig. In 1885 he was elected representative, was re-elected in 1887, and served in the Twenty-first and Twenty-second general assemblies. In 1889 he was elected mayor of the city of Keokuk, and served four years, or until 1893. In 1896 he was elected county attorney of Lee County, was re-elected two years later and served four years. In 1902 and again in 1904 he was the Democratic nominee for Congress from the First District, but each time was defeated in general election by the then Congressman, Thomas Hedge. In 1918 he was elected a judge of the First Judicial District and the following January succeeded Judge Henry Bank, Jr., and by re-elections he was serving in the same position at the time of his death. Both as lawyer and jurist he was noted for the thoroughness with which he went into cases, for the analytical and able way in which he handled them, and for the high ethical standards which he followed. At the time of his death he was the oldest member of the Keokuk bar. Besides the positions already mentioned which his city and district had given him, he served the public in many other ways. For eleven years he was a member of the Keokuk Board of Education. At one time he acted as president of the College of Physicians and Surgeons at Keokuk and occupied the chair of medical jurisprudence. For forty-one years, or since 1895, he had been president of the Board of Trustees of Keokuk Public Library. He was a devoted member of the Presbyterian church and a Sunday school worker for years. He was a member of the Sons of the American Revolution, and a member of the Pioneer Lawmakers of Iowa.

Milo Reno was born near Agency, Wapello County, Iowa, January 5, 1866, and died in Excelsior Springs, Missouri, May 5, 1936. The body was removed to Des Moines and cremated. His parents were John and Elizabeth (Barrice) Reno. Besides receiving a common school education, he attended a Quaker academy, and Oskaloosa College, at Oskaloosa. He was a farmer in Wapello County for a time in his early life. In 1916 when the Farmers Union was organized in Iowa he became its secretary and in 1921 was advanced to president, a position he held until he relinquished it in 1930 at his own request. He was at the time of his death president and general manager of the Farmers Union Life Insurance Company, was president of the Farmers Mutual Automobile Association, and was president of the National Farmers Holiday Association since its inception in 1932, Des Moines being the head office of each of those organizations. He was identified with the McNary-Haugen plan in the 1920's, and later with the movement for price-fixing of agricultural products based on the cost of production. He opposed the compulsory testing of cattle for tuberculosis in 1931. In farm strikes in effort to obtain better prices, and in the war on foreclosures of farm mortgages he was a leader and adviser. During the last twenty years of his life he was the foremost advocate in Iowa of protest against farmers' economic conditions, which sometime led to violence. He came into conflict with Governors Hammill, Turner, and Herring in the administration of law. Listed as a Republican, he disregarded party bonds, voting for Smith in 1928 and for Roosevelt in 1932, but soon became a caustic critic of the latter's administration, and spoke in support of the Constitution. He was a public speaker of genuine ability, having ready command of a good style of language and an acquaintance with English masterpieces, and excelled in his use of invective. He evidently thought farmers were suffering intolerable wrongs, and he became the voice of protest.

Charles James Wilson was born in Washington, Iowa, November 11, 1850, and died in Washington April 10, 1936. Burial was in Woodlawn Cemetery, Washington. His parents were Michael W. and Catherine (Hood) Wilson. He grew to manhood on his father's farm south of Washington and received his education in the home public schools. He read law in the office of McJunkin, Henderson & McJunkin in Washington and was graduated from the Law Department of the State University of Iowa in 1875. He practiced alone in Washington a few years and then with E. W. Stone and J. J. Kellogg formed the firm of Stone, Wilson & Kellogg. In 1883 Mr. Stone retired and the firm continued as Wilson & Kellogg until 1887. In later years his son, Carleton C. Wilson, became his partner as Wilson & Wilson, which firm continued until his death. In 1877 Mr. Wilson was elected city solicitor and served one term, and was again elected to that office in 1885. In 1886 he was elected county attorney and by reason of that and re-elections, served eight years in that position. In 1899 he was elected representative and was re-elected in 1901, and served in the Twenty-eighth and Twenty-ninth general assemblies. He joined Company D, Iowa National Guard in 1878, and was active in it for several years. He was appointed by Governor Cummins a member of his military staff in 1909, and was reappointed by each succeeding governor, including Governor Herring, remaining on the staff until his death. Both in the Spanish American War and in the World War he did patriotic duty on home committees. Politically he was Republican but his friends were of all parties. He loved the beauties of nature, loved his fellow men, and was loved by them in return.

Horace M. Rebok was born at Chippensburg, Pennslyvania, April 2, 1864, and died in Santa Monica, California, April 10, 1936. Burial was in Woodlawn Cemetery, Santa Monica. When he was in his teens his father, the Reverend Henry Rebok, a clergyman of the United Brethren Church, removed with his family to Toledo, Iowa, where Horace entered Western College, then located at Toledo. He went to Otterbein University, Westerville, Ohio, for the last two years of his liberal arts and was graduated from there. He taught school one year at Dysart, Iowa, then for five years was principal of the schools at Tama. President Cleveland appointed him agent of the Sac and Fox Indians located near Tama which position he had from October 1, 1894, to January 28, 1899. He won the friendship of the Indians and was successful in teaching them farming as practiced by modern methods, and interested them in schools and education. In addition to his work as Indian agent he edited the *Tama County Democrat,* published at Toledo. On finishing his work as Indian agent he removed to California, and took postgraduate work at Leland Stanford University. This he followed by becoming editor and publisher of *The World Review,* Chicago, an enterprise not proving profitable. After two years he returned to California and took a position as head of the oral expression department in Los Angeles High Schools, remaining there until 1907 when he became superintendent of schools at Santa Monica. While filling that position he was chosen president of the Southern California Schoolmasters' Club, president of the southern section of the California Teachers' Association, and was made a member of the State Council of Education. He led the campaign that brought a branch of the State University to Southern California. He won a high place in the educational field of the state.

George McCulloch was born at Benton, Holmes County, Ohio, October 24, 1848, and died in Humeston, Iowa, April 12, 1936. His parents were Joseph and Nancy (Miller) McCulloch. He was reared on his father's farm and acquired his early education in the schools near his place of birth. He removed to Iowa in 1870 and began the study of medicine with Dr. C. E. Rayburn of Brooklyn. In the fall of 1871 he entered Rush Medical College, Chicago, but soon thereafter the great Chicago fire destroyed the building of that college, and he left Chicago and entered the Medical Department of Michigan State

University at Ann Arbor. In 1872 he returned to Rush Medical College and was graduated February 19, 1873. He then located at Malcom, Iowa, and began practice, but in the fall of 1873 he removed to Humeston where he successfully practiced his profession for over half a century. He acquired a large practice in town and the surrounding country, was a typical country doctor, a general practitioner, relieving the sufferings of the people and becoming friend and counsellor of all. He did his full share in helping build up the town, was a man of good judgment and made wise investments, acquired some 3,000 acres of Wayne County land, and several town properties. He took an interest in political matters and as a Republican was elected representative in 1881, serving in the Nineteenth General Assembly, the first one held in the new Capitol, and was again elected representative in 1903, serving in the Thirtieth and Thirty-first general assemblies. In 1908 he was elected senator and served in the Thirty-third and Thirty-fourth general assemblies.

Marcus Brooks was born in Whiteside County, Illinois, February 8, 1842, and died at a hospital in Des Moines, Iowa, May 23, 1938. Burial was in the Peoples Center Church Cemetery, Peoples Township, Boone County. His parents were Alphonso and Eliza Brooks. He grew to manhood in the neighborhood of his birth, was educated in public schools, then engaged in farming. He enlisted as a private in the Union Army September [illegible], 1861, at Spring Hill, Illinois, but as the Illinois regiments were complete at that time, his company was made Company A, Eighth Kansas Infantry, which became a part of the Army of the Cumberland. He served in this regiment until January 1, 1864, when he veteranized and continued in the same regiment until the close of the war. He was promoted to first lieutenant January 30, 1863, and to captain of his company July 8, 1864. At different times his regiment was under command of Sherman, Grant, and Thomas. He was honorably discharged in February, 1866. On returning home he resumed farming, but in the spring of 1867 removed overland to Boone County, Iowa, and settled on section 16, Peoples Township, where he acquired land and developed a good farm. Besides farming and the raising of livestock, he became a successful auctioneer. He served as justice of the peace, township clerk, secretary of the school board, and in 1891 was elected representative, and was re-elected in 1893, serving in the Twenty-fourth and Twenty-fifth general assemblies.

Charles [illegible] Hearst was born on a farm near Cedar Falls, Iowa, October 28, 1869, and died in a hospital in Cedar Falls March 8, 1938. Burial was in Fairview Cemetery, Cedar Falls. His parents were James and Maria [illegible] (Dana) Hearst. He grew to young manhood on the farm and for two years was a student in Iowa State Teachers College. He adopted farming as his vocation and after marriage established a farm of his own southwest of Cedar Falls near the place of his birth, which continued to be his home until his death. He early became interested in methods of improvement of agricultural conditions. He was leader of a group of farmers of his neighborhood in securing one of the first two farm agents in Iowa, A. A. Burger, who became farm agent for Black Hawk County in 1912, two years before the Farm Bureau was established. The Black Hawk County Bureau was formed in 1914 with Mr. Hearst president and he served in that office until 1923. He was vice president of the Iowa Farm Bureau Federation from 1921 to 1923, and president of it from 1923 until 1936 when he declined further service. He was vice president of the national organization at the time of his death. He belonged to the Corn Belt organization in its time of activity, was a director in the National Livestock Marketing Association, and other associations of farmers. In all these movements calculated to better farm conditions he was a real leader, and was in recent years frequently called to the national capital by the Agricultural Department for consultation. He was a Republican politically, and in the Kansas City National Convention in 1928 was present as an ardent supporter of Frank O. Lowden for the nomination for president. He was an outstanding defender of the AAA as promulgated by the national administration. Mr. Hearst was president of the School Board of Cedar Falls Consolidated District, 1919-23.

Harry Eugene Kelly was born in Des Moines, Iowa, December 27, 1870, and died in Woodstock, Illinois, January 14, 1936. His parents were Michael Joseph and Margery A. (Lytle) Kelly. He was reared at Williamsburg, Iowa County, where his father was a merchant and senator from the Iowa-Johnson District from 1888 to 1896. He was graduated from the Williamsburg High School, and from the State University of Iowa in 1892 with the degree of Ph. B. He was editor of the *Daily Herald*, Litchfield, Illinois, from 1892 to 1894, and was in educational work in Litchfield and in Sullivan, Illinois, from 1894 to 1896. He taught English literature in the State University of Iowa from 1896 to 1899, studied law in the University of Denver in 1899 and 1900, was admitted to the Colorado bar in 1900 and the same year began practice in Denver. For ten years he was counsel in the West for the Western Union Telegraph Company, was a member of the Colorado House of Representatives in 1906-08, secured the passage of a pure food bill, and of a bill establishing a state railroad commission, and was United States district attorney in Colorado from 1912 to 1914. He was attorney at Washington, D. C., of the Interstate Commerce Commission from 1914 to 1916. He removed to Chicago in 1916, was regional counsel of the United States Railroad Administration at Chicago in 1920-21, and was for years general counsel for the Northwestern Refrigerator Line Company. He was a member of the Union League Club in Chicago, took an active part in investigating the school board scandals, and headed the movement in 1926 for a special grand jury investigation following the gang murder of Assistant State's Attorney William McSwiggin, who was also a native of Iowa County. In 1922-23 he was president of the State University of Iowa Alumni Association. He was an artistic, outstanding personage in every position in every locality where he dwelt and had a host of friends not only among the members of the bar but among business men in all parts of the country.—B. L. W.

JOHN B. HENDERSON was born in Linn County, seven miles south of Cedar Rapids, March 21, 1856, and died at Tama, Iowa, March 22, 1935. He was the son of John W. Henderson, a native of Tennessee and related to the Henderson family prominent in politics in Tennessee, Illinois and Missouri. His mother was Elizabeth (Jones) Butler Henderson. Mr. Henderson figured for many years as a prominent man in business and social gatherings of Cedar Rapids. He was for many years secretary of the Farmers Insurance Company, manager of Greene's Opera House, member of Cedar Rapids Boat Club and the Washington Valley Hunting Association, two terms Mayor of Cedar Rapids, in the nineties, elected as a Democrat, a charter member of the Cedar Rapids Country Club, and for the last few years of his life was the owner of the McHenry Ranch containing 7,000 acres at Lewis, Nebraska, overlooking the Platte River. He also organized the McHenry Land and Cattle Company, and in 1926 projected a thirty-mile irrigation project which attracted the interest of the people everywhere. His wife died in 1927, and since then his residence has been in summer time on his farm, spending the winters in the South, making his home with his daughter, Mrs. H. T. Cheney in Tama. Mr. Henderson was an outstanding figure in the business and club life of Cedar Rapids, and he knew personally during the nineties and up to 1912 all the leading theater folks in the country, and they were most times entertained at his home. He was also an outstanding authority on fire insurance, a lover of fast trotting horses, and a skilled oarsman.—B. L. W.

D. MOSES TRIPP was born in Clear Creek Township, Jasper County, Iowa, September 6, 1882, and died in a Webster City hospital May 26, 1935. Burial was at Newton. His parents were Mr. and Mrs. George M. Tripp. He obtained his education in Colfax public schools, Des Moines University, and Drake University Law School from which he was graduated in June, 1906. The same year he joined his father in the practice of law at Colfax where he remained until 1920. He served as city attorney of Colfax, and in January, 1918, on the resignation of M. R. Hammer, Jr., as county attorney of Jasper County, the Board of Supervisors appointed Mr. Tripp to the position, and he served until December 31, 1919. In 1920 he removed to Newton. He served for a time as a member of the City Council of Newton. At a special election on March 24, 1932, he was elected senator to fill a vacancy caused by the death of Senator O. P. Myers, served during the remainder of the regular session of the Forty-fifth General Assembly, and also during the important extra session of the same assembly. Returning to Newton to resume his law practice he was called to assist the State Highway Commission in suits arising from land owners asking damages when paving was constructed across their farms. In February, 1936, he was appointed by Attorney General O'Connor as an assistant attorney general attached to the Highway Commission with headquarters at Ames. It was while engaged in that work that he met an untimely death through an automobile accident.

James Edward Mershon was born in Newton, Iowa, September 10, 1864, and died in Des Moines May 18, 1936. Burial was in Masonic Cemetery, Des Moines. His parents were James R. and Margaret Ann (Hart) Mershon. The father was a Congregational minister, a graduate of Yale University and an associate of the famous Beecher family, while the mother was descended from a family with literary accomplishments, so the son, James Edward, had home advantages of education and culture. He was graduated from the Law Department of the University of Iowa in 1891 and began the practice of law in Des Moines the same year. He served two terms as city solicitor of Des Moines, 1897 to 1901. He continued in active practice until 1916 when, at nearly the age of fifty-two years, he was chosen one of the four judges of the newly created Municipal Court of Des Moines, the other three being Eskil C. Carlson, Waltĕr Irish, and Joseph E. Meyer. Mr. Mershon was regularly re-elected and served continuously until the election of March, 1936. Being a member of the Municipal Court on its organization and continuing twenty years he is credited with having had much to do with giving it form and direction. He was scholarly, alert of mind, dignified, strict but not harsh, kindly, and just. He had completed plans for re-establishing himself in private practice when death overtook him.

Frank Webster Mahin was born in Muscatine, Iowa, November 6, 1851, and died in Washington, D. C., May 6, 1936. He was a younger brother of John Mahin, their parents being Jacob and Elizabeth Hare Mahin. He obtained his common school education in Muscatine, was a student in Iowa Wesleyan College, Mount Pleasant, attended Harvard University Law School, and later, Columbia University Law School, receiving his degree as bachelor of law from Columbia. He began the practice of law in Muscatine in 1878, continuing it until 1881 when he became editor and manager of the *Clinton Herald*, remaining in that capacity until 1897. From 1890 to 1894 he was postmaster at Clinton. He then entered the consular service representing this country at Reichenberg, Austria, 1898 to 1902; at Nottingham, England, 1902 to 1910; at Amsterdam, Holland, 1910 to 1913, and again from 1915 to 1925, when he retired. He returned to his old home at Muscatine for a time, but in later years was a resident of Washington. Other public positions held by Mr. Mahin were trustee of Iowa State Normal School, 1889-90; regent of State University of Iowa, 1894-97; and colonel of First Regiment, Iowa National Guard, 1891-98.

John Snure was born in Adamsville, Michigan, in 1873, and died in Washington, D. C., March 29, 1936. His parents were Samuel Edward and Eliza Jane (Johnson) Snure. He was graduated from the Michigan State Normal School, Ypsilanti, in 1891. He was a reporter on the *Twin City* (La Salle and Peru) *Journal,* Ottawa, Illinois, in 1892 to 1896; on the *Des Moines Leader* in 1896; on the *Des Moines Register and Leader,* and the *Des Moines Register and Tribune,* 1896 to 1903, except that he served over a year in the Spanish-American War, enlisting on April 26, 1898 as a private in Company H, Fifty-first Infantry. He was promoted to corporal June 20, 1898, and was discharged September 20, 1899, at Manilla, Philippine Islands, when he returned to Des Moines. In 1903 he removed to Washington, D. C., and until his death he was correspondent from the national capital to various papers, chief among them being the *Des Moines Register and Leader,* later the *Register and Tribune,* and the *New York Herald-Tribune.* He had an unusually large acquaintance with leading politicians and statesmen of the country and was universally respected and trusted by them. He kept his close association with Iowa people to the end.

William Stuart was born in Antrim County, Ireland, January 10, 1851, and died at Armstrong, Iowa, March 31, 1936. Burial was in the Armstrong Cemetery. His parents were Alexander and Margaret (Ellis) Stuart. The family removed to Ontario, Canada, in 1856 where William received his education in the public schools. In 1864 they removed to Fulton, Illinois, where he learned the blacksmith trade. In 1879 he removed to Grundy Center, Iowa, where he followed blacksmithing and wagon making, but later entered the farm implement business. In 1890 he was elected mayor of Grundy Center. In 1892 he removed to Armstrong, Emmet County, and became one of the founders of the town. There he engaged in banking, becoming a director and the vice president of the First National Bank of Armstrong, and also the owner of several hundred acres of farm land in Emmet County. He was a member of the school board and for three years, 1897, 1898 and 1899, he was a member of the Board of Supervisors of Emmet County. In 1916 he was elected representative, was re-elected in 1918, and served in the Thirty-seventh and Thirty-eighth general assemblies.

James Findley Morris was born in a log cabin near Princeville, Peoria County, Illinois, October 23, 1854, and died in Altadena, California, May 6, 1936. Burial was in Mountain View Cemetery, Pasadena. His parents were Absalom and Mary Jane (Findley) Morris. The family removed in April, 1855, to Black Hawk County, Iowa, locating on land then secured from the government at $1.25 an acre. The son attended school but little during his boyhood, as it was necessary for him to labor on the farm. When twenty years old he attended school at Hopkinton, Delaware County, two terms, taught a term of country school, then attended high school three years. In 1881 he removed to southeast of Ireton, Sioux County, where for over thirty years he devoted himself to farming and raising livestock, in which he was highly successful. He was a school director ten years, and school treasurer fifteen years. He was elected representative in 1903, re-elected in 1906, and served in the Thirtieth, Thirty-first and Thirty-second general assemblies. As citizen and as legislator he was faithful to his trusts. He retired from business in 1909 and removed to Pasadena, California.

Frank Thomas Vasey was born at Taylorsville, Illinois, October 26, 1876, and died in Springfield, Illinois, April 1, 1936. Burial was at Tokio, Missouri. His parents were Dowsland and Elizabeth (Hadley) Vasey. He attended high school at Livergood, Nebraska, received his A. B. degree from the University of Nebraska in 1904, and his A. M. from the State University of Iowa in 1918. He began teaching in rural schools in 1902, was principal of high school in Pawnee City, Nebraska, 1904 to 1906; superintendent of schools of Tarkio, Missouri, 1906 to 1910; of Albia, Iowa, 1910 to 1913; of Charles City, 1913 to 1918; of Mason City, 1918 to 1930; and of Springfield, Illinois, from 1930 until his death. He was president of the Northeast Iowa Teachers' Association in 1916, and of the Iowa State Teachers' Association in 1927. He was held in very high regard as an educator and as a public citizen.

Louis H. Wiese was born near Tipton, Iowa, December 9, 1890, and died in Davenport February 21, 1936. Burial was in Allen's Grove Cemetery several miles north of the city of Davenport. His education was acquired in district schools in Cedar and Scott counties, supplemented by two terms in Brown's Business College, Davenport. He served fifteen months in the World War. He was in the grocery business in Davenport for five years, and for several years he was a salesman. In 1932 he was elected representative and was re-elected in 1934, and served in the Forty-fifth, Forty-fifth Extra, and Forty-sixth general assemblies. He was chairman of the Pharmacy Committee in the Forty-sixth. He was highly regarded as a legislator and as a citizen.

Harry J. Miles was born at Miles, Jackson County, Iowa, September 13, 1869, and died at Miles April 13, 1936. His parents were Forrest and Henrietta Graham Miles. He acquired his education in the grade schools of Miles and in Grinnell College. He spent his entire life in Miles, where he served as mayor four terms. His business was farming and stock raising. In 1916 he was elected representative as a Republican, and was re-elected in 1918, and served in the Thirty-seventh and Thirty-eighth general assemblies.